

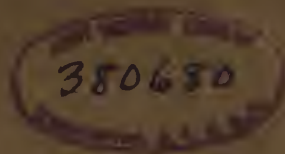
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1919

SYLLABUS OF LECTURES
ON
HOME NURSING

GIVEN AT
THE CHICAGO TRAINING SCHOOL FOR HOME
AND PUBLIC HEALTH NURSING

JOHN DILL ROBERTSON, M. D.,
COMMISSIONER OF HEALTH

SECOND EDITION



EDUCATIONAL SERIES A 18a

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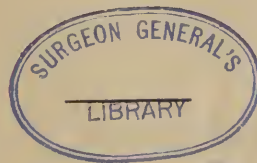
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The following members of the Teaching Staff gave the lectures contained in this Syllabus. A number of others, whose names are not included, gave single lectures:

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A knowledge of nursing should be general among the women of Chicago. Without such knowledge no woman is prepared to be a mother.

The death rate for babies in Chicago cannot be reduced to where it should be until every mother knows how to take proper care of the sick children in her own family, and especially does this apply to the prevention of disease and to the care and nursing of those sick with any one of the communicable diseases so common to child life.

It is the belief of the Commissioner of Health that the greatest service which can be rendered to the people of Chicago just now - and a service which will be valuable for years to come - is that of widely disseminating this knowledge to every woman in the city who will avail herself of the opportunity offered in the courses of the Chicago Training School for Home and Public Health Nursing.

On July 21, 1919, Mayor Wm. Hale Thompson issued a proclamation inaugurating this school. Following this proclamation the enrollments began and when the school opened more than 1,000 women enrolled and have faithfully attended these courses.

It was soon apparent that a text book was essential, in order that the nurse might have a book of instruction for ready reference. There were no books published that were deemed suitable for this eight weeks' course.

Chicago has its own problems and the facts given in Chicago's Training School for Home and Public Health Nursing are in many instances peculiar to our own city.

It was, therefore, decided that the lectures as given in this course should be compiled and published in the form of notes. These notes have been put together very hurriedly and undoubtedly a number of typographical errors are present. However, the essential facts and directions for home nursing are contained herein.

It is contemplated to continue these classes indefinitely and as the weeks go by it is planned that this note book will be revised and augmented until it has developed into a standard text book on home nursing.

John Dill Robertson, M.D.

Commissioner of Health.

MAYOR'S PROCLAMATION.

xi

To the People of the City of Chicago:

In the last week of September, 1918, the pandemic of influenza and pneumonia which swept around the world reached Chicago. Although the suffering was terrific and the loss of life was great, thanks to the efficiency of the Chicago Health Department, Chicago's record was the best of the large cities. So severe was this outbreak that it taxed the nurses of this city far beyond their ability to care for the afflicted; thousands of persons being unable to obtain nursing service of any kind.

When influenza, or what was then called la grippe, visited Chicago thirty years ago, it remained an unwelcome visitor for more than three years, recurring each year after the initial outbreak. The Commissioner of Health of Chicago and many other health officers believe that it will perform as it did thirty years ago and be with us again this coming fall and winter. Therefore, it behooves us to be prepared and in order that many of our people will not suffer for want of nurses as they did last fall, a plan has been devised for an eight weeks' training course for the mothers, wives and sisters of Chicago who desire to become proficient in home training. This course will be free. * * * * *

The school will be located in the building at the corner of Fulton and Ada Streets, formerly occupied by the Loyola University Medical School. A faculty is being selected. The doctors and nurses of the Department of Health will co-operate in training the women of Chicago for this work.

Any woman who does not know the practical things to do in case of sickness, such as taking temperature, pulse, respiration, the keeping of proper record sheet for the physician, and intelligently carrying out his orders should take this course. Instructions will also be given in the proper nursing, feeding and care of the baby.

Application for the course can be made at the offices of the Department of Health, Room 710, City Hall, or at any of the Health Department institutions. The first course of instruction will begin on August 4th.

As we know the lack of nurses during the outbreak of influenza last year cost the people much suffering and the city many lives, I, therefore, urge the mothers, wives and sisters to enroll for the nursing service by joining either the day or evening classes of this institution so that they may be prepared not only to care for influenza patients, but be versed in the general home care and nursing of those sick with any of the communicable diseases.

WM. HALE THOMPSON,

Mayor.

TABLE OF CONTENTS

	Page
Lesson 1 -- The Home Nurse	5
" 2 -- The Sick Room	8
" 3 -- Bed Making	18
" 4 -- Daily Routine Care of the Patient	23
" 5 -- Giving Medicine and Home Medicine Equipment	30
" 6 -- Temperature, Pulse, and Respiration	37
" 7 -- Uses of Water as a Therapeutic Agent	43
" 8 -- Symptoms of Sickness	50
" 9 -- First Aid to the Sick	54
" 10 -- First Aid to the Injured	63
" 11 -- Poisons	69
" 12 -- The Human Body	74
" 13 -- Food	78
" 14 -- Food for the Sick	83
" 15 -- The Sanitation of the Home	90
" 16 -- Plumbing and the Housewife	101
" 17 -- Bacteriology	110
" 18 -- Causes, Symptoms and Prevention of Contagious Diseases	116
" 19 -- Contagious Diseases -- Continued	121
" 20 -- Contagious Diseases -- Continued	130
" 21 -- Principles of Contagious Disease Nursing	138
" 22 -- Nursing Care of Influenza Patients	142

Table of Contents-Continued

	Page
Lesson 23 - Nursing Care of Patients Suffering from Tuberculosis	153
" 24 - Obstetric Nursing	158
" 25 - Care of the Baby	168
" 26 - Care of Older Child	175
" 27 - Review Questions	180

Which Way Are You Going?

To Good Health and Long Life  To Consumption and Early Death 



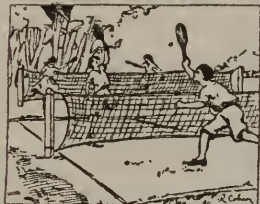
**Sleep
With the
Windows Open**

Clean Air
Pure Blood
Good Health



**Work
and Study
in Pure Air**

Pure Air
Makes Mind
and Body Alert



**Play in
the Clean
Open Air**

Keep Out
of Doors as
Much as Possible



**Eat Clean,
Nourishing
Food**

Keep
Flies and Dust
Away from Food

**Closed
Windows
Mean Dirty Air**

Dirty Air
Poisoned Blood
Death



**Dirty, Dusty,
Hot Rooms
are Killing**

Destructive to
Health and
Efficiency



**Indoor Play and
Play in Dusty Places
is Not Healthful Play**

Exercise
in Dirty Air
is Dangerous



**Dirty
Food Kills
Thousands**

Flies
and Dust
Contaminate Food



NEVER DO THESE THINGS

Don't spit in public places; no spit no consumption.
Don't "swap" gum, apples, etc. There's spit on used gum.
Don't put pencils or money in mouth; there's spit on pencils and filth on money.

Don't eat candy, fruit or pastry that has been exposed
to flies or dust; there are all kinds of germs on such.
Don't sneeze or cough in another's face.
Don't let others infect you this way.

FIGURE 1.



Chicago Health Department - Educational Poster No. 123.

FIGURE 2.

LESSON 1.

THE HOME NURSE.

Qualifications.

Duties.

(a) To her patient.

(b) To her doctor.

(c) To herself.

Dress.

Qualifications.

The requisites of a good nurse are good health, common sense, and the power of improvising. Common sense is at all times needful, but in the field of nursing its use may determine the life or death of a patient. A nurse is called to work under varied conditions. One home may be equipped, or there may be money to equip it, with all necessary working material for the nurse. Another home may be lacking in every essential for the sick room. In the latter case, the nurse will have to improvise furnishings for the patient's comfort. The good nurse does not enter the sick room and begin demanding. The very poor family cannot afford to pay for much more than the medicines or food for the patient. Often too, the case is of an emergency character and what must be done, must be done at once, without waiting to secure equipment. In such a case the nurse must apply common sense and her power of improvising to her nursing knowledge.

The good nurse must be kind; but firm. She should be sympathetic without being emotional. She should at all times be cheerful, patient, and even tempered, remembering that the possible irritability and fretfulness of a patient is a part of his disease.

Duties to her patient.

The home nurse should do her best for her patient under all circumstances, and should do it cheerfully. She should never worry the patient by any discussion of her own troubles, her lack of sleep, her weariness, or anything of the sort.

She should shield the patient from all domestic or household worries, and should keep away from the patient everything that might in any way worry or disturb him.

Duties to her doctor.

The home nurse should accept and carry out as far as possible the doctor's orders and wishes. This point cannot be too greatly emphasized. If you call in a doctor, follow his directions absolutely. Make written notes of his directions concerning food, medicine, stimulants, etc., in order that there may be no chance of your forgetting any part of his directions. Make written notes also of anything important regarding the patient that may happen between his visits.

Never attempt of your own accord any treatment of any sort without consulting the doctor. Giving an enema has been known to kill a patient, and there are cases where giving so simple a medicine as castor oil at the

wrong time may result fatally.

The nurse should always have everything in readiness for the doctor's visit. She should have the patient washed, the bed made, and the room cleaned.

Duties to herself.

The nurse must try to keep up her general health, and must keep herself in good mental condition.

The nurse's health should be maintained:

1. By taking sufficient plain, good food regularly.
2. By having sufficient sleep and rest, so far as is possible. The nurse should have six or eight hours sleep out of each twenty-four hours.
3. By getting into the fresh air daily, even if only for a short time.
4. By wearing proper clothing.

The nurse must keep herself clean and neat. Care of the teeth, hair, nails, person and dress are all of the utmost importance. There should be no personal odor. A sick person is usually more susceptible to odors than a well person.

Dress.

The most important article of dress so far as the nurse is concerned, are comfortable shoes. Good feet are absolute essentials to the nurse, and she cannot keep good feet without proper shoes.

The nurse's dress should be comfortable, loose enough to make lifting the patient easy, and of washable material, so it may always be clean and fresh, and easily disinfected if necessary.

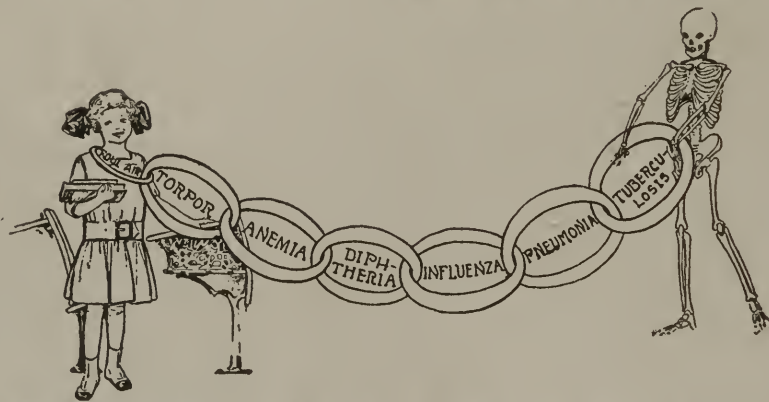
Better keep on being a Fresh Air Fiend---Even if it is cold.

(Reproduced through courtesy of *Chicago Record Herald*)



FIGURE 3.

. THE TIE THAT BINDS.



BREAK THE CHAIN AT THE WEAKEST LINK.
OPEN THE WINDOWS !

Chicago Department of Health - Educational Series No. 92

Katherine
Field
White

FIGURE 4.

LESSON 2.

THE SICK ROOM.

Choice of the Sick Room.

Furnishings of the Sick Room

Ventilation of the Sick Room.

Temperature of the Sick Room.

Care of the Sick Room.

Choice of the Sick Room.

The choice of the sick room will depend largely upon the nature of the patient's illness. The two important things to consider are the good of the patient, and the convenience of the nurse.

The patient in a dark, poorly ventilated room has a harder battle to fight than the patient in a properly selected room. Sunshine and fresh air are nature's best remedies. The Italians have a proverb that says, "Where the sun never enters, the doctor will".

The model sick room is a light, quiet, airy, easily heated room on the south or east side of the house, convenient to the bathroom. Bearing the model sick room in mind, the nurse should make the best of what she finds in the house.

If the patient is an elderly person or is a chronic invalid, and the nurse is also the homekeeper, the sick room should be as near as possible to the room in which the nurse must do her daily work, - that is, it should be near the kitchen.

In such a case, the selection of a room that is satisfactory according to medical standards may work injury both to the patient and to the nurse. For example, suppose the patient to be in a model room on the third floor, removed from the noises of the house, etc., with the nurse compelled to do the household work for her family. Either the nurse will wear herself out climbing stairs, or the patient will suffer neglect. To step from one room to the next to give a drink of water, or to give the bedpan, is no great tax on either the time or energy of the nurse. To go up two flights of stairs for the same purpose is a quite different matter.

If the patient is a child with the measles, chickenpox, or any other contagious disease, the sick room should be the room in the house that is most easily isolated, in order to keep the disease from spreading to the other members of the family.

In such cases one member of the family must act as nurse, without any household duties, regardless of the hardship to the rest of the family. And in Chicago, in order that the patient may have home quarantine, the Health Department requires that the bathroom used for the patient suffering from a contagious disease, must not be used by any other member of the family. It is always desirable that the sick room be conveniently near the bathroom, or where water is handy. The nurse uses water frequently about her patient - giving baths, giving medicines, cleaning articles used by the patient, for hot water bags, for cold com-

presses, for drinking purposes, etc. Then the nurse, in treating many diseases, should thoroughly wash her hands every time she touches the patient.

It can readily be seen that the selection of a sick room is more a question of common sense than of fixed medical rules.

Furnishings of the Sick Room.

The furnishings of the sick room, like the choice of the sick room, will depend largely upon the nature of the patient's illness. The important things to consider here are cleanliness and simplicity.

In the case of an elderly person or of a chronic invalid it is desirable that the room should look homelike to the patient. In the case of contagious diseases, it is desirable that there should be as little furniture as possible to disinfect or burn after the illness, consequently in such cases the room should be stripped of everything except bed, chair and bedside table. In any case of illness, it is desirable that there should be as few things as possible in the room to catch dust, because dust is one of the great enemies to the recovery of the patient.

Dust under the microscope resolves itself into particles of soot, sand, iron and steel, glass, lime, woody fibres of vegetables, dried sputum, shreds of linen and wool from soiled bedding, pieces of hair, dried particles of pus, blood and human tissue, dried animal waste, fragments of food, many of which may bear disease germs.

This is the material that mingles itself with the

food that is eaten, and that is inhaled into the lungs of both the patient and the nurse, if not properly and frequently removed. Naturally, the fewer objects in the room to catch and hold dust the better for both patient and nurse.

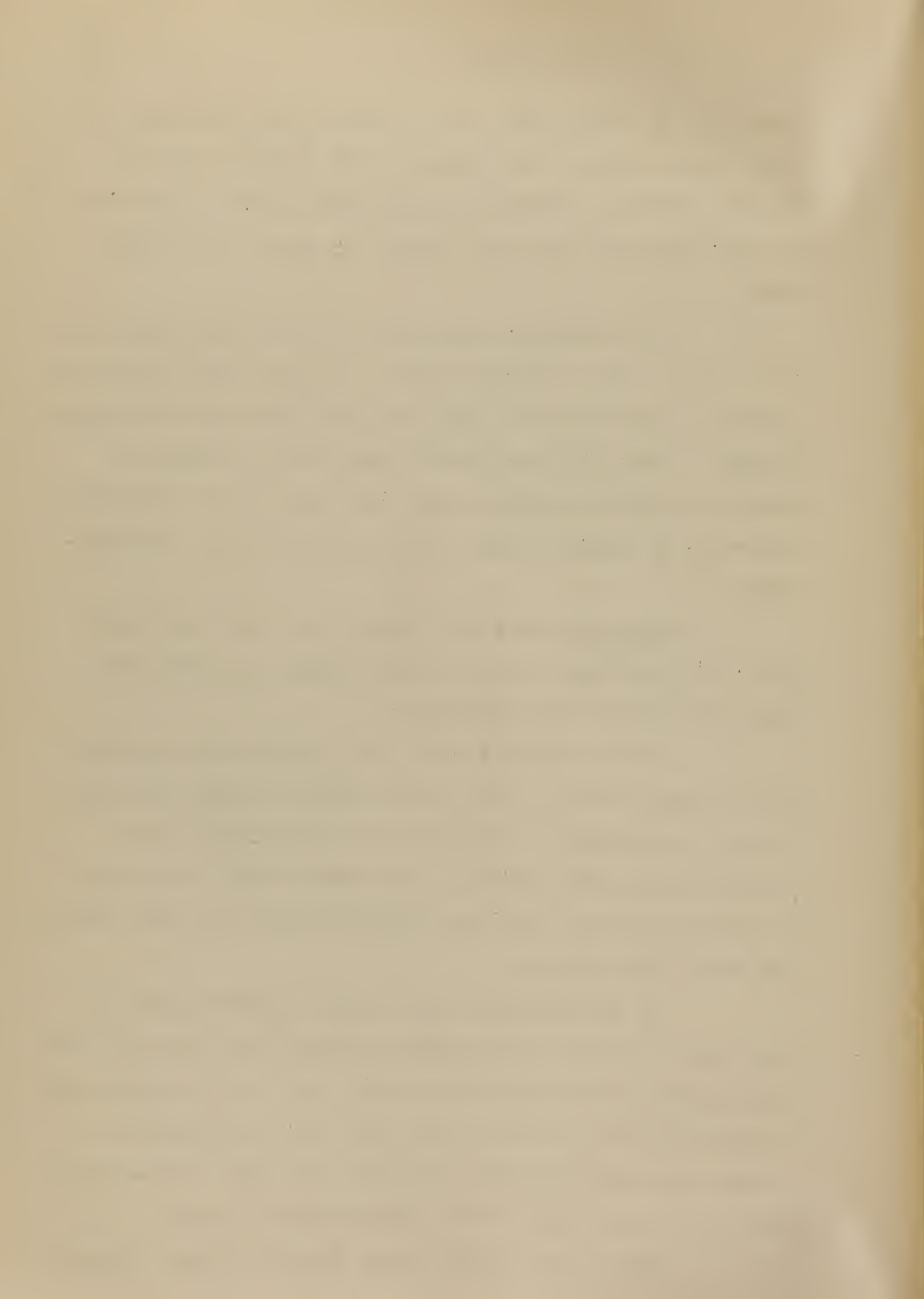
The essential furnishings of the sick room are a bed, a chair and a bedside table. Whatever other furniture is in the room should be selected with some definite purpose in mind. Thus, if curtains are hung at the windows it should be because curtains will tend towards the patient's recovery, or peace of mind, by making the place seem home-like.

The Bed should be a single, iron bed, 26 inches high. In case such a bed is not at hand the nurse must make the best of what she finds.

If the bed is too low the castors may be removed and the bed raised to the proper height by means of wooden blocks or of bricks. If the bed is a double bed with sagging spring, the hollow in the center may be supported by using boards the width of the bed placed upon the springs and under the mattress.

It is desirable that the bed should stand well away from the wall on all sides in order that the nurse may conveniently attend to the patient. But, if the nurse finds a double bed in a room so small that the bed cannot be pulled away from the wall, the nurse must let the bed stay where it is and suffer extra inconvenience herself.

The patient should never face the light. When it



is possible the nurse will arrange the bed so the patient will be facing away from the light, but where this cannot be done, the nurse will turn the patient around if necessary placing his head at the foot of the bed. Here, as everywhere else in nursing, common sense should be used.

The Bedding should consist of a mattress, three common sheets, a rubber sheet, two single wool and cotton mixed blankets, a light weight spread, and small feather or hair pillows.

The best mattress is one of felt or of horse hair. Any sort of mattress may be used, however, if it is clean, is firm, and is free from lumps and hollows. Where the only mattress available is a lumpy one, the nurse will make the surface as smooth as possible by careful padding. The mattress should be turned frequently in order to prevent a depression in it where the patient lies. It should be turned from head to foot, not from side to side.

Two sheets, the upper and the lower sheets, should be long enough to fold well under each end of the mattress, and should be wide enough to fold in well at the sides of the mattress in order to prevent wrinkles in the sheets, because wrinkles may cause bed-sores. The third sheet, or draw sheet, may be an ordinary cotton sheet placed crosswise on the bed, or it may be a double sheet folded and placed crosswise with the crease toward the top of the bed. The rubber sheet should be $3/4$ to 1 yard wide, and should reach from the pillow to the knees of the patient and be

long enough to tuck well under both the sides of the mattress. It is necessary only in cases where the mattress needs protection. When no rubber sheeting is available, the mattress may be protected by a piece of oilcloth or by newspapers.

It is well to have a number of small pillows as they are most useful for propping the patient up in bed, for supporting the back, for supporting an aching limb, etc. Hair pillows are firmer and cooler than feather or down pillows and are especially serviceable in cases of fever.

The Chair used in the room should be a simple, plain, straight-backed chair. Upholstered chairs catch too much dust to be allowed in the sick room, and rocking chairs are likely to irritate a nervous patient.

The Bedside Table should be a small, plain table. If a polished table is used, it should have oilcloth under the plain, white table cover to protect it in case of accident. It should be used only for such things as the nurse wishes to leave at the patient's bedside, usually a glass of water, and a vase of flowers, and as a rest for the tray.

Ventilation of the Sick Room.

A current of fresh air should be circulating in the sick room day and night. The blood is purified by means of the oxygen in the lungs. Fully $1/3$ of the whole volume of blood is always circulating in the lungs and each corpuscle passes through them eight thousand times in twenty-four hours. If a fresh supply of oxygen is not ad-

mitted to the room at frequent intervals, the patient is forced to rebreathe impure air.

The necessary current of fresh air must be secured without subjecting the patient to draughts. How it will be secured depends entirely upon the nature of the sick room.

Where there are windows on opposite sides of the room, good ventilation may be secured by opening one window from the top and the other from the bottom. Where there is but one window in the room, the upper sash may be lowered and the lower sash raised; or a window pane may be removed, and the space covered with muslin or cheesecloth; but in such cases the door will have to be opened often in order to really flush out the air of the room. Where double windows are used in cold weather such windows should have a sliding pane or should be put on hinges.

Where there is danger that the patient will be in a draught from open windows, the bed should be protected by a screen, or a board should be fitted across the lower opening of the window. The fresh air will enter at the middle of the window between the two sashes. The same device may be made by lowering the upper sash and fitting the board at the top of the window.

In some cases it may be necessary to ventilate the room entirely from an adjoining room. Where there is any doubt in the nurse's mind as to the proper means of

ventilating a room she should ask the doctor about it.

Temperature of the Sick Room.

The nurse must not try to keep the sick room warm by keeping doors and windows closed. Artificial heat must be provided in sufficient quantity to make it possible to have the windows open a little in even the coldest weather. The temperature of the room should be 65° to 68° F. during the day, and about 65° F. at night.

In such diseases as pneumonia, it may be advisable to open all the windows in the room and use screens about the bed to avoid draughts on the patient, supplying the patient with the necessary additional covering. In all such cases the nurse will be under the direct charge of the attending physician, who will give full directions for treating the case.

Care of the Sick Room.

The sick room must be kept perfectly clean. Soiled clothing or slops should never be allowed to remain in the room. Flies should be kept out. They annoy the patient by crawling over him, and they are likely to carry disease germs from the sick room to the rest of the house. All dust that may have settled on the floors or furniture must be removed daily.

The model sick room has a bare floor with no rugs, except possibly a couple of small washable rugs. In cleaning such a floor use a damp cloth or an oil mop, and take the rugs out of the room to shake them. Where the

(Sick Room)

room has a carpet on the floor, a carpet sweeper or vacuum sweeper should be used; but if it is necessary to use a broom, because nothing else is at hand, sprinkle the carpet with wet tea leaves, moistened salt, or a newspaper torn into small bits and soaked in lukewarm water. These moistened particles gather the dust and help to keep it from floating about the room. It is also well in sweeping to tie a damp cloth over the broom. The cloth should be re-dampened as the sweeping proceeds. All dusting should be done with either a dampened or an oiled cloth, preferably a square of cheese cloth.

In communicable diseases the urine, feces and vomited matter should be disinfected with chloride of lime, six ounces, or twelve table-spoonfuls, to one gallon of water.

In communicable diseases all soiled linen from the sick room should be placed in a wash boiler or metal can full of water. It should never be taken to the laundry in a dry condition. It should be boiled for twenty minutes after the water begins to bubble. The patient's dishes and silver should be kept in the room, and before returning them to the house they, also, should be boiled.

The room should be kept quiet. The reasons are obvious. The patient should have rest of body and mind. The act of keeping him happy or contented will aid in recovery. Usually the room should be as far as possible from those in which the family congregate, - the family talking will often disturb a sick person - and under no consideration may

family worries be discussed either with or in the presence of a patient. Neighbors and friends should be requested not to run into a patient's room, as this has a disturbing effect.

The sick room should, for the time being, belong entirely to the patient. It should not be shared with other members of the family, nor should other members of the family keep any of their clothes or possessions in it.



Removing the Top Sheet Without Exposing the Patient.

FIGURE 5.



Changing or Turning the Mattress With Patient in Bed.

FIGURE 6.



Ready to Begin the Bath.

FIGURE 7.



The Bath.

FIGURE 8.

LESSON 3.

BED MAKING.

MAKING AN UNOCCUPIED BED.

- (a) The Medical Bed.
- (b) The Surgical Bed.
- (c) The Maternity Bed.
- (d) The Fracture Bed.

CHANGING THE BED WHEN OCCUPIED.

- (a) To make a bed with a patient in it without changing the sheets.
- (b) Changing the lower sheets.
- (c) Changing the upper sheet and blanket.
- (d) Turning the mattress with patient in bed.

Making the Medical Bed.

Cover the mattress with a sheet tucked in firmly all around, beginning at the head, and squaring the corners. If the mattress needs protection, stretch a rubber sheet over this lower sheet and tuck it in firmly at the sides. The rubber sheet should reach from the patient's shoulders to his knees.

Next place the draw sheet across the center of the bed over the lower sheet, or over the lower sheet and rubber sheet. Tuck both ends of the draw sheet firmly under the sides of the mattress.

Lay the upper sheet on the bed with the wide hem just reaching the top of the mattress. Tuck it in at the bottom of the mattress, sufficiently to make the sheet

lie smooth and straight. Square the corners and tuck the sides of the sheet under the sides of the mattress.

Adjust the blankets one at a time so they will come just as far as the patient's chest, tuck them in at the foot of the bed, square the corners, and tuck in the sides. Next put on the spread so the top comes even with the top of the blanket. Tuck it in at the foot of the bed, square the lower corners, and allow the sides to hang over the sides of the bed. Turn the upper sheet neatly back over the blanket and spread; shake up the pillows; place the pillows at the head of the bed, one flat on the bed, and the other standing on it at right angles to it.

Making the Surgical Bed.

Make the surgical bed just the same as the medical bed, except that you will not tuck in the upper sheet and blankets at the sides, and you will not adjust the pillows in the same way. After the bed is made, fold the top covers down to the foot of the bed; lay a small rubber sheet covered with a towel over the head of the mattress and tuck it in at the sides. This is to protect the bed in case of vomiting. Stand the pillow against the head of the bed and fasten it there, so the patient cannot knock his head against the head of the bed.

Place hot bricks or irons or hot water bottles at the center and at the foot of the bed, in order to heat the bed thoroughly before the patient is placed in it. Lay a clean night-gown and two separately folded blankets over

the hot bricks or irons.

When the patient is ready to be put into the bed, remove the hot water bottles, bricks, or irons, and the heated gown and blankets quickly. Lift the patient into the bed and place the warm blankets over him, folding one blanket over the patient's chest and abdomen. Tuck the ends of this blanket under the sides of the mattress. Lift the patient's feet and legs, place the other blanket under them and wrap them up in it snugly. This will prevent the patient from becoming chilled, and will also prevent him from tossing about while coming out from under the influence of the anaesthetic.

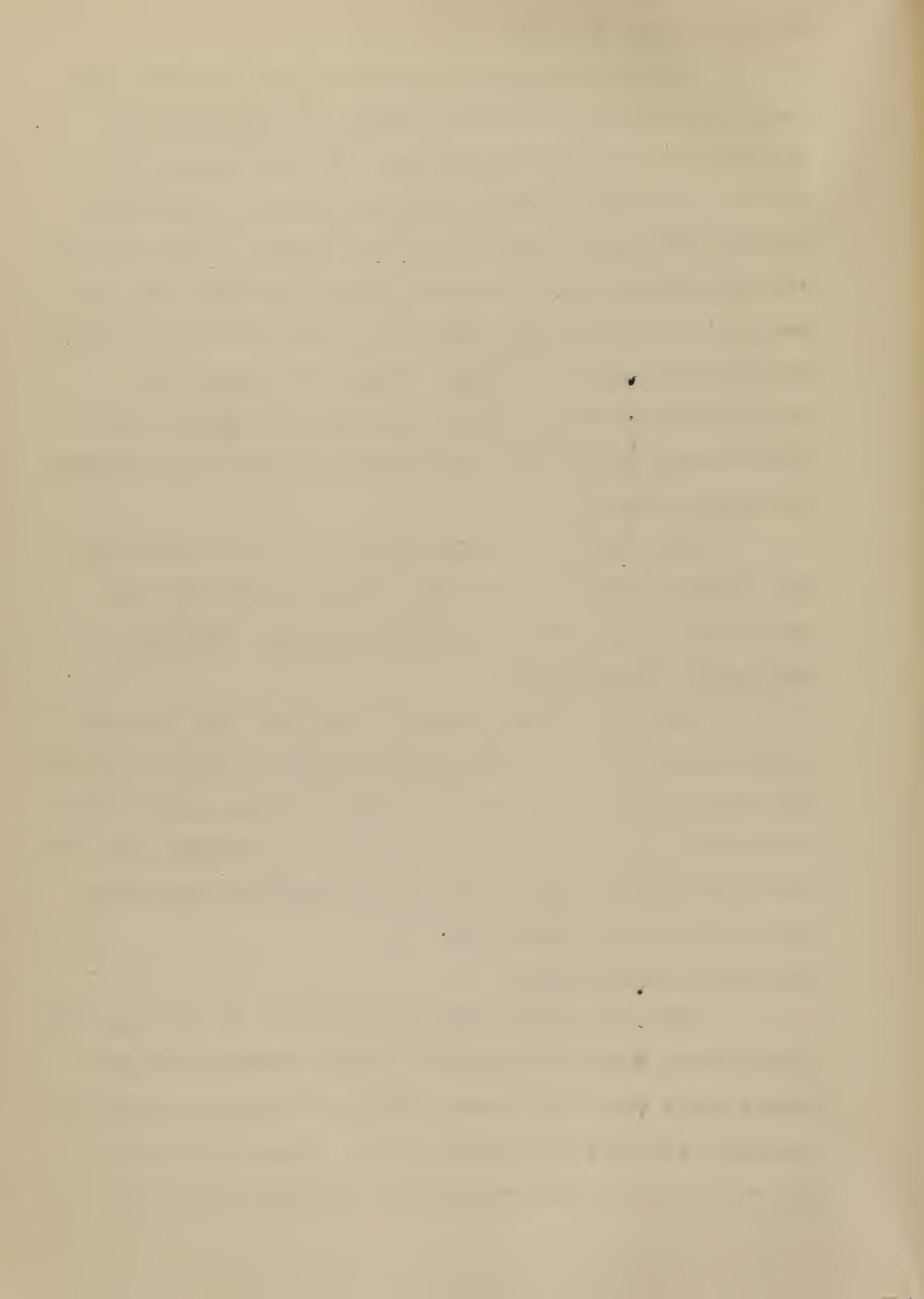
Now draw the bed clothes from the foot of the bed and cover the patient with them. Place a towel over the upper edge of the covers in case of possible vomiting.

Making the Maternity Bed.

Take three boards about a foot wide and place them in the middle of the bed between the mattress and the springs. Put the mattress into place and cover it with a rubber sheet. Finish making the bed just as you would the medical bed. (The subject of the maternity bed will be considered more fully in the chapter on Obstetrics.)

Making the Fracture Bed.

Make the fracture bed just the same as you make the medical bed, except that you will place boards one or two inches apart from each other, over the springs and under the mattress, the full length of the bed. These boards make the bed perfectly firm and prevent the least motion of



the fractured member from such causes as sinking of the mattress.

To make a bed with a patient in it without changing the sheets.

First free the bed clothes at the top, bottom, and sides. Straighten the patient's night-gown. Smooth out all wrinkles in the lower sheet. Draw out each piece of covering separately, then tuck it in tightly at the sides. Shake the pillows, turn them and replace them. This should be done at least morning and evening if the patient is obliged to be in bed the entire day.

Changing the lower sheets.

Have everything at hand before beginning. Assist the patient to the edge of the bed opposite to the side which is to be changed first. In moving the patient be sure to support the part of the body which needs it most. If the patient is to be brought to the left side, go to the left side of the bed; stoop, and slip the right hand under the patient's right shoulder, and the left hand under the right hip. Then slowly turn him toward you, being careful that the support is given with the whole hand and not with the fingers alone.

Then go to the opposite side and roll up the lower sheet, the draw sheet, and the rubber sheet against the patient's back. Lay the clean lower sheet over the right half of the mattress and tuck it in at the head, sides and foot. Then adjust the right half of the clean draw sheet and roll the remaining half of the clean sheet and of

the fractured member from such causes as sinking of the mattress.

To make a bed with a patient in it without changing the sheets

First free the bed clothes at the top, bottom, and sides. Straighten the patient's night-gown. Smooth out all wrinkles in the lower sheet. Draw out each piece of covering separately, then tuck it in tightly at the sides. Shake the pillows, turn them and replace them. This should be done at least morning and evening if the patient is obliged to be in bed the entire day.

Changing the lower sheets.

Have everything at hand before beginning. Assist the patient to the edge of the bed opposite to the side which is to be changed first. In moving the patient be sure to support the part of the body which needs it most. If the patient is to be brought to the left side, go to the left side of the bed; stoop, and slip the right hand under the patient's right shoulder, and the left hand under the right hip. Then slowly turn him toward you, being careful that the support is given with the whole hand and not with the fingers alone.

Then go to the opposite side and roll up the lower sheet, the draw sheet, and the rubber sheet against the patient's back. Lay the clean lower sheet over the right half of the mattress and tuck it in at the head, sides and foot. Then adjust the right half of the clean draw sheet and roll the remaining half of the clean sheet and of

the clean draw sheet against the patient's back. Next move the patient gently to the freshly made right side of the bed, remove the soiled bedding and tuck the left half of the clean sheet and the draw sheet into place.

Changing the upper sheet and blanket.

To change the upper sheet and blanket requires quickness to avoid exposure. Free the bed clothes from the foot and side, turn the blankets back, leaving only the soiled upper sheet over the patient. Spread the clean sheet over this and tuck it in firmly at the bottom. Slip the hand down under the clean sheet and draw the soiled one out. Spread the blankets and draw them up smoothly toward the patient's neck. Turn the clean upper sheet back over them.

Turning the mattress with patient in bed.

Move the patient to one side of the mattress, loosen the bed clothes, and roll them up tight against him.

Take hold of the mattress from the side opposite the patient and draw it half way across the bed. Place three pillows on the exposed half of the springs and move the patient with the bed clothes under him, on to the pillows. Turn the mattress from top to bottom, make it up with fresh sheets and draw sheet, and move the patient back on to it. Remove the three pillows and draw the mattress back into position.

LESSON 4.

DAILY ROUTINE CARE OF THE PATIENT

1. The daily routine.
2. Humoring the patient.
3. To prop a patient up in bed.
4. Difficult breathing.
5. Changing position and rearranging bed.
6. Comfort of numerous small pillows.
7. Getting a patient up in a chair.
8. Prevention of bed-sores.
9. Restraining a delirious patient.
10. Care of bedpan.

Daily Routine.

In every home where there is sickness there should be a daily routine. Important duties should be performed at stated times during the day. The nurse should follow a natural course in deciding on the order of her routine duties.

When the patient awakens in the morning the nurse should take his temperature, pulse, and respiration. She should give the patient the urinal or the bedpan. She should bathe the patient's hands and face with lukewarm water; comb the patient's hair; wash out the patient's mouth with water or a solution. The bed should then be rearranged as described in the directions for making the bed, without changing the sheets. The patient should be placed in a comfortable position and should be given his

breakfast. After breakfast the patient should be allowed to rest quietly for an hour, then he should be given a cleansing bath or an alcohol rub.

Humoring the Patient.

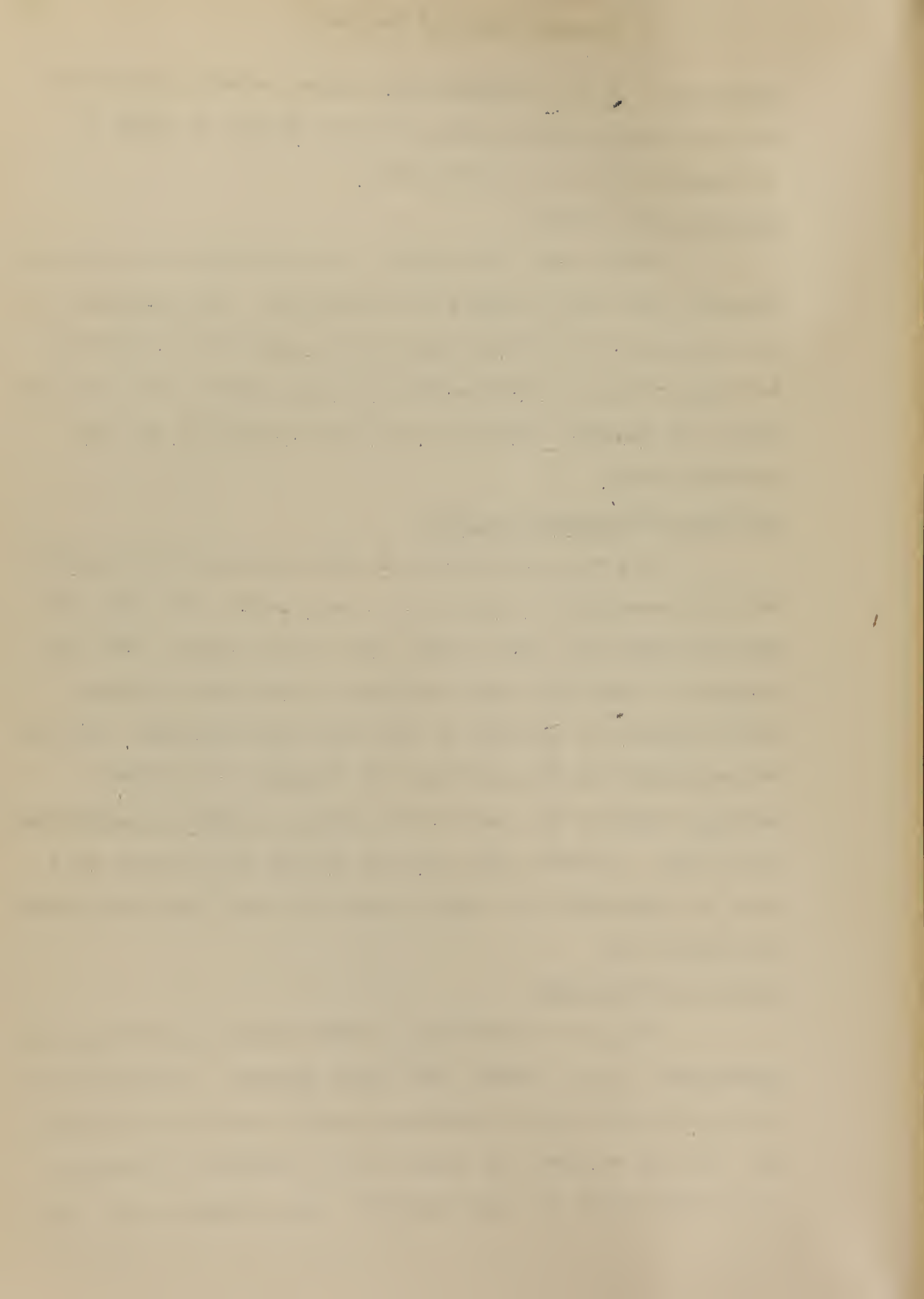
Always make the patient as comfortable as possible, humoring him when it makes no difference. If, however, it is necessary to be firm, never allow fretting or pleading to change what is known to be the right course for his good. Leave the patient alone at intervals during the day for complete rest.

To Prop a Patient up in Bed.

To prop a patient up in bed at least five pillows will be necessary if there is no back rest. See that the pillows come well down to the base of the spine, that the support is even and that the head is not thrown forward on the chest nor allowed to tilt too far backwards. An inverted chair may be placed on the bed and the pillows arranged against the back of the chair to make an improvised back rest. A board with the ends placed on a box or on a pile of magazines will make a table for use when the patient is propped up.

Difficult Breathing.

Difficult breathing is often found associated with pneumonia, croup, asthma, and heart disease. Patients suffering from difficult breathing usually have to be propped up. If the sickness is likely to be prolonged, provide a wide board about two feet long for this propping up. Sup-



port the board by an inverted chair, and pad it well with pillows:

Changing Position and Rearranging the Bed.

In lifting a patient always support the parts of the body which are in special need of support. Turn the pillows and shake them; and, if the patient is restless, rub the back and limbs gently, putting a pillow beneath the knees, or at the back.

If the patient has to lie constantly on his back, the nurse might occasionally support the back for a few minutes with her two hands, one hand slipped under the shoulders and the other placed against the small of the back. This may prove restful.

It often rests a patient to bathe the face and hands, or to straighten out the sheets, shake them, and tuck them in anew.

The Comfort of Numerous Small Pillows.

Numerous small pillows are useful in helping to keep a patient comfortable. They may be made of old soft materials, or of excelsior, or of hair, and covered with old linen or cheesecloth. These pillows may be used wherever the patient's comfort calls for them. They may be fitted into the hollow of the back, fitted under the shoulders, fitted under a tired arm or leg, or placed where they will remove the weight of the bedding from any sensitive spot.

Getting a Patient up in a Chair.

Have a chair, pillows, and patient's clothes

all in order before attempting to get a patient up. When everything is in order slip on the patient's stockings and slippers. If the weather is cold put on underwear also. Next slip a warm bathrobe over the patient's gown. Then lift the patient from the bed into the chair, which should have a high back and arms, and should be well padded with pillows. If the patient must be lifted bodily from the bed the nurse should have someone else help her do it. One should place an arm under the patient's neck and the other arm under his hips, while the nurse should place one arm under the patient's head and the other arm under his shoulders. The patient should lie quiet and relaxed while being moved, for if he tries to help it will be harder to move him.

If the nurse must get the patient up alone she should first raise him to a sitting position in the bed, having him support himself if necessary by holding tightly around her neck. Move the patient's feet and legs to the edge of the bed, then ease the feet to the floor. Be sure the chair is in exactly the position where you want it. Grasp the patient under the arms, raise him to a standing position in front of the chair, and ease him gently down into the chair.

Wrap a blanket snugly around the patient, pin it around the feet with safety pins and slip a stool under the feet.

The patient should not sit up longer than fifteen minutes or a half hour after a serious illness.

Prevention of Bed-Sores.

Bed-sores are due to faulty nursing. They are caused by continuous pressure on certain spots, by friction between two surfaces, by moisture, by wrinkles or creases in the under sheet, by lack of cleanliness. To prevent bed-sores is much easier than to cure them.

Keep the patient dry and clean; keep the bed free from wrinkles, crumbs, or lumps; and relieve, when possible, the pressure on parts where bed-sores are most likely to occur, i.e., base of spine, elbows, ankles, hips, shoulders, or between the knees. To relieve the pressure circular cushions or air cushions are used. A home-made circular cushion may be made of a small roll of cotton batting made into a circle and covered with a roller bandage. The spot where a bed-sore is threatened is placed over the hole in the bandage.

The first sign of a bed-sore is redness which does not disappear when all pressure is removed. Such redness should be reported to the physician as soon as the nurse notices it, and the directions that the physician then gives should be followed by the nurse most carefully.

Restraining a Delirious Patient.

A patient who shows the least sign of delirium should never be left alone, even for a moment. When it is necessary for the nurse to leave the room someone else must take her place until she returns.

If a patient becomes definitely delirious the doctor should be notified and the patient should be kept

as quiet as possible until the doctor comes. Do not contradict him unnecessarily; agree with him; do everything possible to keep him quiet without the use of forcible restraint. Forcible restraint will only excite the patient still more and cause more violent resistance on his part. In some conditions such violent resistance would cause the patient's death.

Care of Bedpan.

In cold weather the bedpan should always be warmed before bringing it to the patient. Raise the patient gently by slipping the left hand under his hips, then place the bedpan under him with the right hand. Never leave the patient on the bedpan a minute longer than necessary. Before removing the pan cleanse the patient with toilet paper, and if necessary sponge him off with warm water, being careful that he is thoroughly dried. Cover the bedpan with a wet cloth and take it from the room immediately to empty and clean it, first by washing it with cold water, then with hot water. In cases of contagious diseases, such as typhoid fever, the germs of contagion are found in the stool and in the urine, hence it is necessary to disinfect these before emptying the bedpan, and some of the disinfecting solution should be left standing in the clean bedpan. Chloride of lime is the disinfectant usually used for this purpose.

A bedpan that is not clean, warm, and adjusted under the patient properly may be a great factor in producing a bed-sore. The nurse must see that the pan is intro-

duced in such a manner that the skin is not rubbed hard or scratched, that a part of the night-gown is not folded in between the bedpan and the body, and that when removed the patient is lifted entirely free from it before it is pulled upon; also that the patient's buttocks are thoroughly dried and powdered.

There are 60,000 blind persons in the United States.
At least 20,000 of these sad cases
were Preventable!

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THE USE OF
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"THE DROPS"



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IT WILL COST
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AND
PREVENT
- THIS -



To Lose one's SIGHT is Like Losing LIFE itself.

SAVE YOUR BABY'S SIGHT

Chicago Department of Health - Educational Series No. 91

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FIGURE 9.

MOTHERLY LOVE OFTEN BECOMES MOTHERLY MURDER

THROUGH THE USE OF "SOOTHING SYRUPS"

Most Soothing Syrups Are Poisons to Babies

They contain Opium - Opium kills Babies

DON'T DOPE YOUR BABY



STOP GIVING SOOTHING SYRUPS

If baby is colicky — REMOVE THE CAUSE.

The commonest causes of Colic are - Feeding too often; feeding too much; feeding solid Foods; improperly prepared Foods; dirty or spoiled foods; giving babies candy or Fruits; use of unclean nursing bottles and tubes; indiscretions in diet by nursing mother; ill health of nursing mother; lack of cleanliness of breast, of baby's mouth, in care of baby's food, of feeding Bottles; overwork of nursing mothers; etc.

FIGURE 10.

LESSON 5.

GIVING MEDICINES AND HOME MEDICINE EQUIPMENT.

Always be careful in regard to medicines. They enter the blood quickly, especially if the stomach is empty.

The following rules should always be borne in mind by the nurse when giving medicine:

1. Do not give medicine unless the doctor prescribes it, and then give only what the doctor has prescribed.

This rule applies particularly to the use of headache powders and sleep producing medicines. Most headache powders contain substances that are powerful depressants. Most of the pain-relieving drugs are in reality violent poisons to the nervous system.

The two drugs most commonly used in headache powders are opium in some of its many forms, and the coal tar drugs. The use of opium, morphine, laudinum, codeine, heroin, paregoric, which are merely forms of the same drug, frequently ends in the drug habit. This habit has proved so injurious that there is now a national law preventing the sale of these drugs except under a registered doctor's prescription.

Most people know that opium is an injurious drug, but many people have been led to think that the coal tar preparations are harmless. Many doctors thought so, as a matter of fact, until recently. These drugs, of which the most common are aspirin, acetanalid, anti-karnia, phenacetin, etc., are all powerful depressants. These drugs have been known to cause sudden death.

The chief danger in the use of sleep producing medicines is that the drug habit will be formed.

2. Always give medicine exactly at the time and in the quantity prescribed by the doctor. Usually he writes full directions for the nurse about medicine and general treatment, and signs these directions. This is especially true in critical cases. If the doctor should forget to leave such directions the nurse should ask for them.

3. Never give medicine in a dim light. This rule is important because many a person has been killed by giving of the wrong medicine.

4. Read the doctor's directions carefully before removing the cork from the bottle.

5. Always read the label twice before pouring out the dose, and again before giving.

6. Shake the bottle before measuring the dose.

7. Measure exactly, as with some drugs even a drop too much or too little will alter the effect on the patient. If possible use the regular graduated glass and dropper, as spoons vary in size.

8. Always pour from the side of the bottle opposite the label, (this is so the label will not become discolored and unreadable) and never give a medicine not labeled.

9. Cork the bottle carefully after the dose is measured.

10. Never allow the moist end of the cork to touch anything.

11. It is usual to dilute medicine with water. The

nurse should use judgment as to the amount. There should be enough water to reduce the strength of very strong medicine, but not enough to make too large a dose for the patient to swallow.

12. The disagreeable taste of oils may be lessened by giving them in orange or lemon juice.

13. Give medicines containing iron through a glass tube. This is necessary because iron is very destructive to the enamel of the teeth.

14. Keep all medicines containing poison separate from other medicines and completely out of reach of children.

15. Pills should ordinarily be placed far back on the tongue and followed by a drink of water. Where the patient has especial difficulty in swallowing them they should be placed in a bit of bread, in a spoonful of jelly, in a spoonful of berries, or in something of the sort. Do not give pills that are old and stale, for pills often become so hardened with age that they are not dissolved in the patient's stomach, and pass out of the body without any effect.

16. Always give powders direct from their paper wrappings. Crease the paper and shift all the powder to one end of the crease. Have the patient put out his tongue, pour the powder well back on the tongue, then give the patient a drink of cold water.

When giving a drink of water, always give it quite hot or quite cold, as lukewarm water is nauseating.

17. Never give the patient stale medicine. The medicine cupboard should be gone over at least once a year

and all medicines a year old thrown away, for most medicines lose their strength in that time.

18. Keep all tinctures such as Sweet Spirits of Niter in a dark place, as they lose their strength very quickly if exposed to the light.

19. When giving medicine to produce sleep, see that the patient is comfortably arranged for the night, then give the medicine, and follow it with a hot drink, - hot milk, hot beef-tea, hot cocoa, or whatever the doctor may prescribe.

20. Some drugs have a cumulative effect, especially in old age, in cases where the patient is constipated, and in certain diseases of the kidneys. Digitalis is one of these drugs. When it is being given in such a case, the nurse should be especially watchful for evidences of accumulative action. Such evidences are a very slow, intermittent pulse; nausea and vomiting; and a sensation of bodily weakness.

21. There are some people that cannot tolerate certain drugs, just as there are some people that cannot tolerate certain foods. If the nurse notices a condition on the part of her patient that seems to her to indicate a failure to tolerate the medicine given, she should at once report the condition to the doctor.

Manner of Giving Medicines.

Medicines are introduced into the body in five different ways; namely,

1. Per mouth (swallowing, gargling, spraying).

2. Per rectum (where patient is unable to take it by mouth).

3. By skin (rubbed in).

4. Hypodermically,

5. By inhalation through the nose.

The doctor will direct the nurse as to the proper method to employ for her patient.

When medicine is given hypodermically, one-third less is given than when it is given by mouth. When it is given by rectum, twice as much is given as when it is given by mouth. When pills and powders are dissolved they act more quickly than when they are not. The dose of medicine is regulated not only by the disease, but also by the age, weight, and sex of the patient, as well as by the method of administering it. When the nurse realizes these facts, she will understand why it is necessary that she should always have instructions from the doctor, not only as to what sort of medicine to give, but also as to how much to give, as well as how to give it.

HOME MEDICINE EQUIPMENT.

Every home should have:

(a) Essential equipment for the sick room.

(b) Medicines.

(c) Disinfectants and deodorants.

The Essential Equipment for the Sick Room should include a fountain syringe, a hot water bag, a bedpan, a urinal, a clinical thermometer, a bath thermometer, a screen

Many of these things can be improvised from materials in the home. A screen can be made by pinning a sheet, shawl, or blanket over a clothes horse. A basin may be used as a bedpan. A mason jar can be used as a urinal. Bottles or mason jars may be heated, filled with hot water, and used instead of hot water bags. Bricks or flat irons may be used for the same purpose.

There should be on hand, also, bandages one inch and two inches in width, absorbent cotton, and medicated gauze. The bandages may be made from a well worn sheet. Tear the cloth the desired width, remove the selvage, lay the two ends to be sewed together flat, one on top of the other, and sew firmly. Remove the raveled threads, wind firmly, and fasten with a pin.

Medicines: Among medicines found in every home should be the following:

Iodine	Vaseline	Adhesive Plaster
Olive Oil	Boric Acid	Mustard
Castor Oil	Carron Oil	Turpentine
Epsom Salts	Glycerine	Aromatic Spirits of Ammonia

Disinfectants and Deodorants: The disinfectants most commonly used are carbolic acid, lysol, and chloride of lime. All of these are deodorants as well, although fresh air and sunlight are the best deodorants. Practically all disinfectants are violent poisons if taken internally. They should, consequently, be plainly labeled poisons and kept in a part of the medicine cupboard that is completely separate from the part where medicines are kept.

Caution.

All drugs and medicines in the home medicine cupboard should be labeled. Always keep medicine out of the reach of children. Never leave it standing on window-sills or tables. Keep all sick room equipment where it can be found instantly.

Case No

Hospital Physician

LESSON 6.

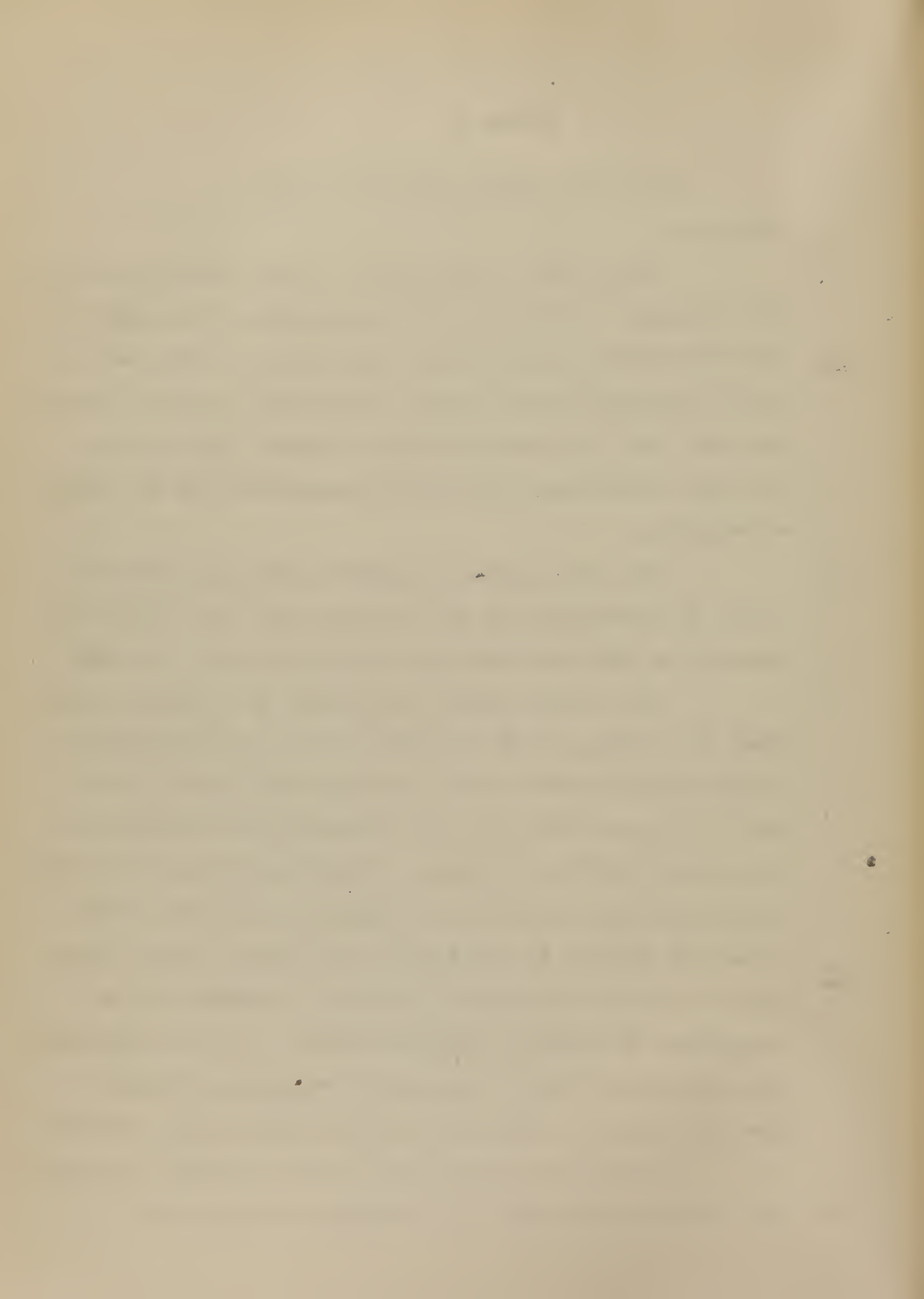
TEMPERATURE, PULSE AND RESPIRATION.Temperature.

Temperature is the degree of body heat as measured by a clinical thermometer. The temperature of the body is not ordinarily affected by the temperature of the air. It may be increased by hot drinks, stimulants, exercise, temper, hot foot baths, hot mustard baths, enemata, and disease. The most common cause of rise of temperature are the toxins of bacteria.

The temperature is lowered during digestion and sleep; by perspiring; by cold bathing; from the effects of exposure to cold and starvation; and by certain diseases.

The average normal temperature of an adult, taken under the tongue, is 98.6° . Blood heat is 100° Fahrenheit. It may range from 98° in the morning to 99° in the afternoon. If it is under 98° , it is spoken of as subnormal; if it is above 99.5° , it is fever. The temperature varies more in children than in adults. A degree or two above normal is usually nothing to worry about in a child, unless associated with other symptoms of illness. A sudden drop in temperature is usually a serious matter. This is especially true in typhoid fever. In cases of sunstroke, patients have been known to live after having a temperature of 112° .

To take the temperature we use a special thermometer, known as a clinical or temperature thermometer.



Temperature is taken

- (a) Per mouth,
- (b) Per rectum,
- (c) Per axilla, or armpit.

Before using the thermometer always wash it in cold water and dry it. Then shake it down until the mercury stands at 96° , or lower.

If you are going to give the thermometer by mouth, place it under the tongue and close the lips firmly together. Leave it under the tongue for two minutes; then remove it; take the reading; record the reading at once; wash the thermometer carefully.

The temperature per mouth should not be taken immediately after the patient has partaken of hot or cold food or drink, because this affects the temperature of the mouth.

Taking the temperature per rectum is necessary often in the case of infants, delirious patients, drowsy patients, and mouth breathers. The readings by this method are about one-half degree higher than those by mouth. The thermometer used for taking rectal temperature should never be used for taking mouth temperature; but if it is so used it should first be disinfected by dipping it in pure alcohol, or into a 2% solution of carbolic acid.

When taking the temperature per rectum, rub the thermometer with vasoline or olive oil; insert it two or three inches; leave it in place for three minutes; remove it and read; record the reading at once; wash the thermometer

Taking the temperature under the armpit is less accurate than taking it by mouth or by rectum. When taking it by this method first dry the armpit thoroughly. Then place the thermometer in the armpit and hold the arm tight against the body for five minutes. Temperature readings by this method are one-half degree lower than those taken by mouth.

When the nurse records temperature readings she should always state which method was used in getting them.

Pulse.

Each time the heart contracts it forces blood into the arteries. This distends them, and it is this distention at regular intervals, corresponding with the beating of the heart, that is called pulse. The pulse is the most important index of the physical condition of the patient. The temperature may be high, but if the heart action as indicated by the pulse remains strong and regular, there is little reason for alarm.

The pulse may be taken wherever the arteries come near the surface of the body, - at the wrist, at the temple, at the angle of the lower jaw, in the groin, near the heel, and in the neck. Pulse is usually taken, however, at the wrist. In taking it, place the second and third fingers gently over the artery. If you use the thumb, you may be counting your own pulse instead of the patient's. Do not press too firmly. This sounds quite simple, but in reality counting the pulse is difficult except in perfect health. It is not uncommon for a young nurse to count a patient's

pulse several times and get a different result each time. The nurse will need a watch that records seconds in order to take the pulse satisfactorily. The pulse may be counted for a full minute, or it may be counted for a half minute and that result multiplied by two.

The pulse rate varies greatly in different persons and at different ages in the same persons. The pulse is quickened by eating food, by exercise, by excitement, and by disease. The pulse rate is lower when lying down or sleeping than it is while standing or while walking about.

The normal pulse rate for males varies from 60 to 72. The normal rate for females varies from 65 to 80. The normal rate for very young babies is from 124 to 144; for babies from six months to a year it is from 105 to 115; for children from two years to six years it is from 90 to 105. The child's pulse rate becomes the same as the adult pulse rate when the child is about twelve or fourteen years of age. In old age the pulse becomes slower.

In feeling the pulse we consider not only its frequency, but also its force, volume, and rhythm. The normal pulse is recognized by its perfect rhythm, the equal force of successive heart beats and the medium size of the artery.

The regular recurrence of heart beats is called rhythm. As to rhythm, pulse is classified into classes - regular and irregular. Sometimes pulse may be spoken of as intermittent, - that is, a beat is lost from time to time. Irregular and intermittent pulse may be caused by:

- (a) The condition of the heart or respiratory organs.
- (b) Acute disease.
- (c) Certain conditions of the nervous system.

The force of the pulse varies greatly. We speak of it as either strong or weak.

The nurse should take the pulse of the patient at least twice daily. In acute illness it should be taken at least every four hours. It is customary to take the pulse and the temperature at the same time.

Respiration.

The act of breathing in and breathing out air is respiration. We call the breathingⁱⁿ/Inhalation, and the breathing out Exhalation. Respiration, therefore, consists of inhalation and exhalation.

The air is composed of oxygen (20 parts), nitrogen (79 parts) and one part other gases. We breathe air in through the nostrils, and down through the pharynx, larynx and bronchial tubes into the lungs. In the lungs it passes through the thin walls of the air cells directly into the blood, which is purified by means of the oxygen that it takes up.

We breathe out much of the nitrogen of the air and, in addition, carbon dioxide, which the blood has gotten rid of while passing through the lungs.

Carbon dioxide is taken up by plants and vegetation generally, and is used by them in their growth. They in turn give oxygen off into the air. Animal life would soon

(Temperature, Pulse and Respiration)

perish from the earth if there were no vegetation, because animal life cannot be maintained where there is a great quantity of carbon dioxide in the atmosphere. Expired air containing two or three parts of carbon dioxide in one thousand parts of air will produce headache, nausea, drowsiness, and will lower our resistance to disease.

The oxygen of the air is used up not only by being breathed in by human beings and other animals; but it is also used up by the burning of fires or lamps.

The normal rate of respiration of the normal adult is from 16 to 20 per minute. For infants it is 30 to 35. For sleeping children it is from 20 to 25.

In counting the respiration do not let the patient know that you are doing so, for respiration cannot easily be controlled. Usually the nurse can obtain the rate by placing her arm on the chest of the patient and counting the respiration while pretending to take the pulse, or the nurse may count the movements of the bed clothing over the chest while the patient is sleeping. The nurse should count for a full minute. The respiration of an infant is most easily taken by placing the hand on the abdomen, and counting the number of times it rises per minute.

In recording the respiration the nurse should state not only the rate, but also whether the breathing is regular or irregular; difficult or easy; noisy or quiet; deep or shallow; and abdominal or thoracic.



Hot Dry Pack.

FIGURE 11.



Improvising for Croup Tent, etc.

FIGURE 12.

HOW TO MAKE A PAPER DRINKING-CUP.

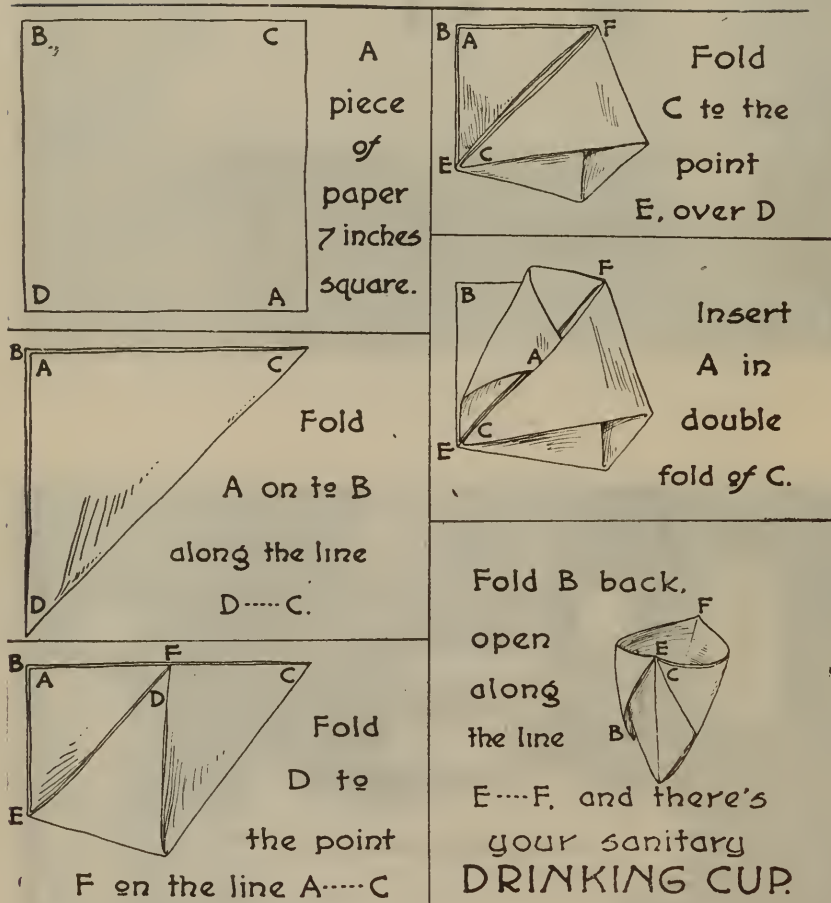


FIGURE 13.

LESSON 7.

USES OF WATER AS A THERAPEUTIC AGENT.

Baths, Emenata and Ebuques.

In the body, water is the most abundant substance, composing about two-thirds of the body weight. The circulatory system is dependent on water to float the various nutritive elements and convey them to the tissues that need them. Water is constantly passing out of the body through the expired air, the skin, the kidneys, etc. Thirst is nature's call for a fresh supply. The remedial properties of water may be divided as follows:

(a) Tonic and stimulating properties.

An increase in circulation and temperature may be produced quickly by a full hot bath. A quick cold sponge under proper conditions also has a tonic effect.

(b) Sedative properties.

Cold or tepid water, properly used, is one of the most effectual methods in lowering the temperature, slowing the pulse, and allaying restlessness.

(c) Anti-spasmodic properties.

Water has proven its value as an anti-spasmodic in infantile convulsions, hysteria, puerperal eclampsia, and other affections of the nervous system.

(d) Anodyne properties.

In relief of pain few remedies are so effectual as water. It may be applied either hot or cold.

(Baths)

(e) Laxative properties.

By increasing the secretions of the liver and intestinal glands, water acts as a natural laxative. Used as an enema it accomplishes the same purpose.

BATHS.

No bath except a cleansing bath should ever be given by a nurse without the doctor's orders. In cases of Bright's disease a cold bath may prove fatal to a patient. As a matter of fact, Lassar produced Bright's disease in rabbits by two cold baths.

Cleansing Bath.

The bath most commonly given is the cleansing bath. To give such a bath to a patient in bed, first protect the bed with bath blankets. It is needless to say that the room should be warm and free from draught, and that everything needed should be at hand before beginning the bath.

Turn back the bed spread, keeping the patient covered with either a blanket or a sheet. Wash the patient's face, ears, and neck, and dry them carefully. Then bathe one arm at a time, keeping the rest of the body well covered meanwhile. Next bathe the chest. Change the water and have warm water for bathing the abdomen, as it is very sensitive to cold. Next bathe the legs, one at a time. Finally turn the patient on his side and bathe his back. Dry the back, and rub it with alcohol, then powder it. The cleansing bath need not take more than fifteen minutes.

When changing the gown, slip off the sleeves of the soiled gown and pull it toward the neck, put the arms in

the sleeves of the clean gown, support the head and shoulders. slip the soiled gown off, draw the clean one over the head, and pull it down smoothly. If an arm or shoulder is injured, slip the sleeve off the arm on the opposite side first.

The patient's mouth should be thoroughly washed out at the same time that he is given the cleansing bath. It may be washed out with warm water or with a mouth wash. Some simple home mouth washes are salt water, and baking soda dissolved in water.

After bathing the patient comb his hair. In combing the hair of female patients hold the hair tightly in the left hand and comb with the right hand, combing from the ends first. Don't braid the hair too tightly. The braid should be back of, and below, the ear. .

If the patient appears weak or tired following the bath, he should be given a cup of hot broth or milk. The best time for giving a sponge bath is about one hour after breakfast.

Cold Sponge Bath.

A cold sponge bath will never be given without the doctor's orders, and the temperature of the water and the length of the bath will be determined by the doctor.

To give a cold sponge bath:

(a) Have ready a deep basin, half full of water, at the required temperature; a bath thermometer; a basin of chopped ice; a large washcloth; an ice cap, and a hot water bag.

(b) Remove the top bed clothes and the night-gown. covering the patient with a single blanket or sheet.

(Baths)

Roll under him above the usual bedclothes, a rubber sheet large enough to cover the bed. If desired, a sheet may be placed between the rubber and the patient, but it is not necessary.

(c) Place the ice cap, or a cold compress, on the head, and the hot water bag at the feet.

(d) Sponge with a wet sponge in long single strokes, exposing each limb and the entire chest in turn, dividing the time equally between each. For the last five minutes, turn the patient and sponge the back in the same manner. Regulate the temperature of the water by adding ice.

(e) Remove the rubber sheet and wrap the patient in a sheet for twenty minutes. Wipe the body dry. Rub the back with alcohol, and take the temperature.

Cold Pack.

The temperature and length of the cold pack will be directed by the doctor. When giving it protect the bed by a rubber sheet, by a thick quilt, or by a folded blanket. Wring a sheet that is folded in two or three thicknesses out of water at the desired temperature, and place it under the patient. Wring another sheet out and place it over him. Wrap the arms in large towels wrung out of water. Apply heat to the feet and an ice cap to the head while giving this bath.

Hot Pack.

To give a hot pack wring blankets out of hot water that is several degrees hotter than you want the pack to be, because the blankets will cool rapidly. Wrap the hot blankets about the patient, and cover with heavy blankets to keep in

the heat. If necessary pile hot water bottles, or heated irons, around the patient to help maintain the heat. ~~Place~~ a cold compress on the patient's head while giving this bath.

Foot Bath.

A hot foot bath is valuable in restoring vitality, in breaking up a cold, in relieving headache, and sometimes as a remedy for insomnia. In the latter case it acts by drawing the blood from the brain to the extremities, thus inducing a temporary anemia of the brain. The bath is prepared at 100° F. and raised as high as can be borne without faintness. If the patient is in bed, the bedclothes should be turned back and the bed protected by a rubber sheet. The bath is placed conveniently and a light blanket kept over the back and limbs during the process of bathing.

Sweats.

Place a rubber sheet and a blanket, both hot, under the patient. Remove the nightgown and roll it in a hot blanket to keep it warm; place hot water cans or bottles, rubber hot water bags, or hot bricks wrapped in flannel, around the patient; cover with another hot blanket; cover that with a second rubber sheet; tuck both firmly in under the mattress and around the neck; cover with as many blankets as may be desired. Apply, as usual, cold compress or ice bag to head; give drinks freely.

CAUTION.

The cans, etc., must be carefully covered and arranged outside the enveloping blanket in such a manner that the patient cannot come in contact with them. This is necessary in order to avoid burns.

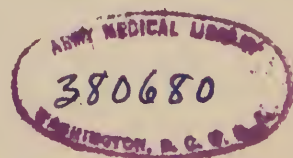
An enema is a fluid injected into the lower bowel by way of the rectum. It is employed to relieve constipation; to check diarrhoea; as a vehicle for the administration of food, water, medicine, or stimulation to the general system; and as a local application.

Enemata should never be given except under the doctor's directions. Giving them has been known to kill people after surgical operations. When they are given the nurse must exercise great care to avoid injecting air into the bowel, must give them slowly through a small rubber tube, and must use a rubber catheter. In giving enemata to babies or young children most doctors recommend using a small rubber ear syringe.

The nurse must remember, also, that the first flow of fluid will be chilled by running through the tube, and should be run off before the catheter is inserted, if the enema is to be given warm or hot.

When giving an enema place the patient on his left side or flat on his back with the knees flexed in order to relax the abdominal muscles. Place a small rubber sheet, covered with a thick towel, under the patient; roll the nightgown up out of the way; use a single sheet or blanket as a covering. Be careful to insert the catheter gently. After the required amount of water has been given remove the catheter and assist the patient to the bedpan or to the commode, which should be at hand before the enema is begun.

The temperature of an enema varies with the results to be obtained, and should always be directed by the doctor.





A douche is a washing out of any of the body openings. Douches may be aural, nasal, vaginal. They must never be given without the doctor's orders, and should never be given except by very skilled nurses, unless the doctor is present.

LESSON 8.

SYMPTOMS OF SICKNESS.

A symptom is any evidence that leads one to think that a person is ill. Many diseases and deformities may be prevented if the conditions are attended to before they are too far advanced; therefore, the nurse should train herself to see symptoms. Much of the difference between a trained nurse and an untrained nurse lies in their ability to see and describe symptoms accurately. To detect signs of illness promptly, and report them at once to the doctor, may mean the prevention of serious illness. The usual symptoms of sickness are loss of appetite, high temperature, chills, pain, unnatural positions in bed, and certain conditions of the sputum, urine, and feces.

A person in good health will eat three meals of wholesome food each day. Whenever anyone does not want food, there is something wrong. It may be that he has overeaten and the stomach wants a rest, or it may be that he is ill.

If lack of appetite continues for some time, and is associated with loss of weight, the patient should consult a doctor. These symptoms are enough to make one think of the possibility that tuberculosis may be present.

A high temperature associated with chilliness, flushed face, bright eyes, restlessness, and a dry skin, always indicates the presence of fever of some sort.

Pain is a danger signal. People in good health do not

have pain. Often the nurse will have to judge of the presence of pain by such signs as restlessness, crying, the expression of the face, and positions indicating pain. This is especially true in the case of babies, children, unconscious or hysterical patients.

The position in bed which a patient assumes while sleeping may often indicate the presence of certain diseases. If the patient can sleep only while lying on one side, some organic trouble is probably present. If he sleeps with his knees drawn high, he is probably suffering from some bowel disturbance. If the patient insists upon lying on his abdomen, this would suggest the presence of colic.

Puffiness around the eyes, on the backs of the hands, or about the feet or ankles, may indicate kidney or heart trouble, and should always be reported to the doctor.

Any deformity of the spine or any evidence that one leg or arm is not so large, or is not so active, as the other, or continued pain in the knee, may be an indication of spine or hip disease.

A bad breath may indicate decayed teeth, diseased tonsils, or stomach disturbances. Mouth breathing usually indicates the presence of enlarged adenoids.

Constipation, diarrhoea, loss of weight, pallor, and sleeplessness, are all danger signals.

In the adult in normal health the bowels move once or twice a day. The discharge is a light or dark brown in color, soft and more or less formed. Any variation from this appearance, especially the presence of blood in the

discharge, or any unusual odor, should be noted by the nurse and reported to the doctor.

The average healthy adult discharges from the body during each twenty-four hours about a quart of urine. Any marked increase or decrease in the quantity may indicate the presence of disease. Any unusual odor should also be noted. If fresh urine has a marked odor, as of ammonia, decomposition within the bladder is indicated.

Sputum is what is coughed up. A healthy person does not cough; therefore, when there is sputum, there is some disease. All sputum should be discharged into paper napkins, which should be burned after they have been used.

The doctor may ask for a specimen of sputum, or for a specimen of urine. When taking a specimen of sputum the nurse should try to secure it early in the morning, before the patient has eaten. Have the patient cough and spit two or three times into the large mouthed bottle which is to contain the specimen. Cork the bottle at once, and label with the name and address of the patient. The bottle used by the Health Department for obtaining sputum specimens is about one inch square. These bottles may be obtained free upon request.

If the doctor asks for a specimen of the urine great care must be used in preparing it. It is best to use the first that is passed in the morning. Have the bedpan scalded and perfectly clean. Wash the patient off well before giving the pan. Have a four ounce bottle and a cork well cleaned and boiled. Fill the bottle from the bedpan,

put in the cork, label with the name of the patient, and date, and keep in a cool place until it is given to the doctor.

Keeping Bedside Notes.

The home nurse should keep bedside notes. She should not rely upon her memory. If she has a history chart, keeping notes accurately, under the various headings, is not difficult. In addition to temperature, pulse, and respiration, she should note the kind of sleep, - whether restful and quiet, or disturbed; the amount of sleep; and when taken. She should itemize the articles of diet, and note the amount of food taken. She should state the amount of medicine given and when given. She should make a note of all discharges from the bowels and the bladder.

In keeping bedside notes be sure the statements of observations are facts. Tell as much as is asked for. If any unusual condition arises, such as a chill, convulsion, or hemorrhage, write it on the history chart, under "Remarks". The report should be full, accurate, and neat.

LESSON 9.

FIRST AID.

First aid is the necessary emergency treatment while waiting for the doctor to arrive. It is necessary to know not only what to do, but also, what not to do. First aid never takes the place of treatment by the doctor, except in cases where the home nurse definitely knows the accident or illness to be minor. Sometimes apparently trivial injuries, if not treated promptly by a doctor, may have serious consequences; therefore, the nurse should be very cautious in deciding to bear the responsibility alone.

First Aid to the Sick.

Hemorrhages.

Hemorrhages may be external or internal. External hemorrhage may be stopped usually by exposure to air, or by pressure of a dressing, or bandage.

Internal hemorrhage, or bleeding inside the body, may be caused by ulcer or cancer, by the presence of tubercle bacilli, etc.

There are signs by which one may tell that there is an internal hemorrhage. The patient often faints from no apparent cause. The breathing is often irregular, feeble, and sighing. There may be pain, but not always. The patient suffers from air hunger and from dizziness. If the hemorrhage is not stopped soon, the patient's skin becomes very pale, and the pulse rate may increase to 100 or 115.

The first thing necessary in treating internal hemorrhage is to secure complete rest. If it is an abdominal hemorrhage, elevate the lower part of the body and lower the head. Application of cold compresses to the part affected will cause a contraction of the walls of the vein or artery, and may stop the bleeding.

Never use stimulants in case of hemorrhage unless the patient becomes very faint and it appears necessary to give a stimulant in order to keep the patient alive until the doctor comes, because stimulants cause a more vigorous action of the heart and consequently a greater loss of blood. The stimulant most often used is aromatic spirits of ammonia. Mix one teaspoonful of aromatic spirits of ammonia in one half glass of hot water and give frequent doses of a teaspoonful or more from this mixture. A drink of hot coffee, or of hot tea, may be given in addition.

A doctor should always be called in case of internal hemorrhage, for such a hemorrhage is likely to be a symptom of some serious disease. To distinguish between a lung and a stomach hemorrhage remember that bleeding from the stomach is vomited and is dark colored, while bleeding from the lungs is coughed up and is frothy and bright red.

External hemorrhages are usually caused by cuts or injuries, and their treatment will be considered under "First Aid to the Injured". A possible exception to this is nose hemorrhage. A hemorrhage of the nose is often caused by picking the nose. It may also be caused by fever, foreign bodies in the nose, injury to the nose, skull frac-

ture, or its cause may be idiopathic, that is, it may have no apparent cause.

A nose hemorrhage may usually be ended by rest. Have the patient lie down quietly. Often a cold compress or ice applied directly to the back of the neck will stop a nose hemorrhage. Sometimes pressure applied with the finger to the nostril on the side that is bleeding will be sufficient. Packing with a small ball of cotton or gauze for a few minutes may cause the blood to clot, and so stop the hemorrhage. If this does not suffice, send for a doctor.

Infantile Spasms.

Convulsions in children may be due to many causes, the most common of which is intestinal trouble, especially if associated with rickets. Other causes are worms, brain fever and other acute infectious diseases.

The spasms usually begin in the hands and then may involve one side or the entire body. The eyes are fixed and staring; the body becomes rigid. Grinding of the teeth and screaming are common at the outset.

When convulsions occur in a child always call a doctor at once. While waiting for the doctor to come the nurse should give the sufferer a hot bath or a mustard bath. If mustard is used the water should not be above 80° Fahrenheit, as a greater degree of heat will destroy the effect of the mustard. When mustard is not used the temperature of the water should be about 95° Fahrenheit. If a doctor is not available a colonic flushing should be given to empty the bowels.

A cold compress, or an ice bag, may be applied to

the sufferer's head, especially if there is fever, when the convulsion is over, and the child is made comfortable in bed.

Fainting.

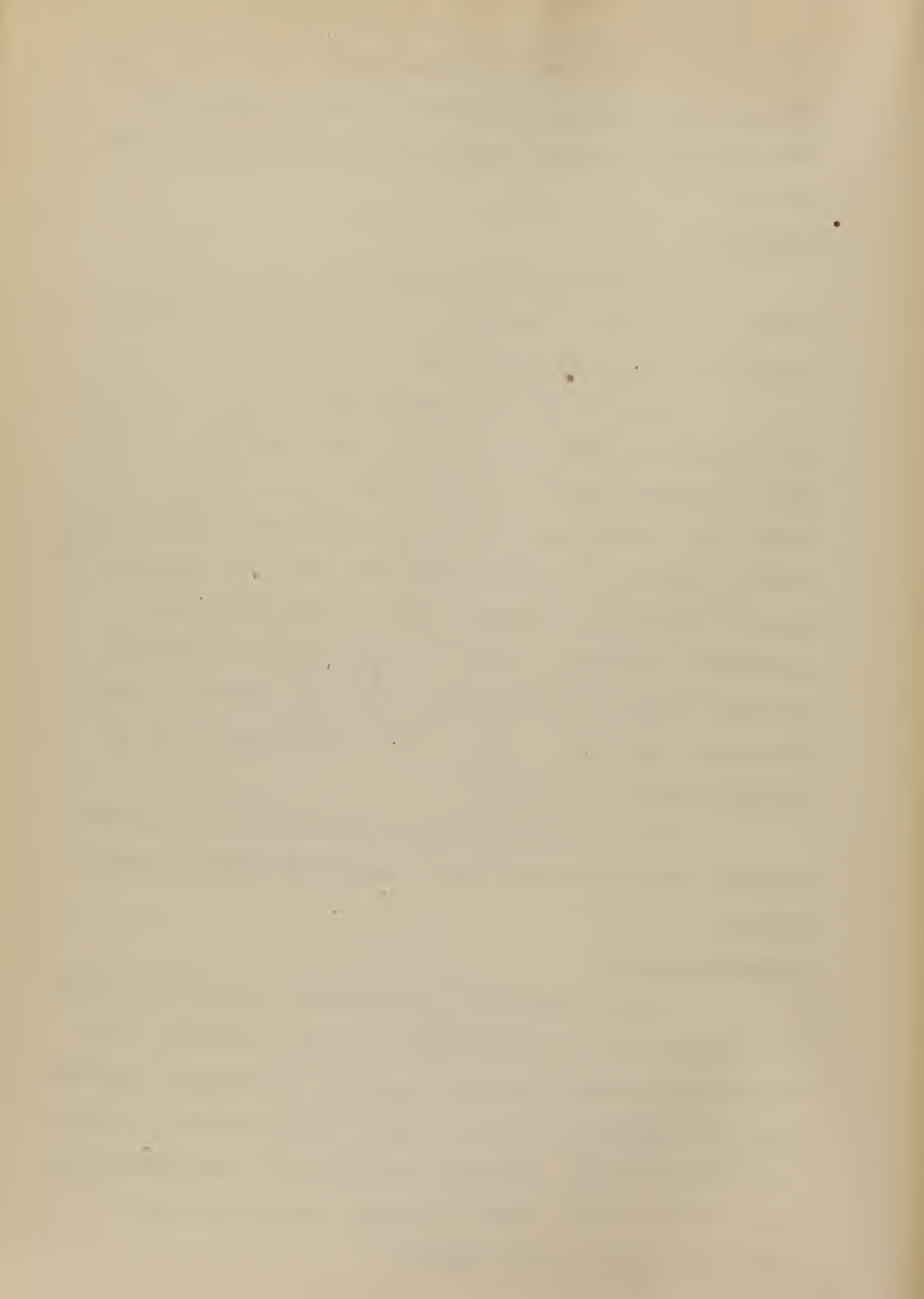
Fainting is usually caused by lack of sufficient blood in the brain. People who faint often, or who faint easily, should consult a doctor.

When a person shows faintness it is sometimes possible to prevent fainting by getting him into the cold air, or by applying cold water to the face, or by having him lie down. If fainting has occurred lay the patient flat on the floor. Loosen the clothing about the neck and waist and see that the patient has plenty of air. The face may be sprinkled with water. Apply smelling salts or aromatic spirits of ammonia to the nose. When the patient is able to swallow give him a drink of hot tea or coffee, or of aromatic spirits of ammonia.

If the patient is not easily revived, send for a doctor, for the fainting may be caused by internal hemorrhage.

Unconsciousness.

Before treating a patient who is unconscious, the nurse should first know the cause of the condition. Unconsciousness may be due to hemorrhage, sunstroke, suffocation, poisoning, or shock. A doctor should always be summoned immediately. Emergency treatment for unconsciousness due to suffocation, or to drowning, will be discussed under "First Aid to the Injured".



Unconsciousness due to shock by electricity or by lightning, should be treated at a hospital. Emergency treatment consists in immersing the patient up to his neck in water, preferably in a running stream, although a bathtub is better than nothing.

Sunstroke.

Sunstroke is caused by excessive heat and usually occurs when one is exposed to the direct rays of the sun; but a very frequent factor is alcoholism. In case of sunstroke send for a doctor at once. Remove the patient to a cool place; remove all unnecessary clothing; apply cold compresses or ice to the head and chest; give cold water freely when consciousness returns. If the nurse gives the patient a cold tub bath, or a cold pack, she must employ a continuous rubbing to prevent shock. In cases of sunstroke no stimulant may be given.

Heat Exhaustion.

Heat exhaustion is prostration and collapse due to exposure to excessive heat, particularly when combined with physical exhaustion in hot closely confined rooms. In such cases the nurse will send at once for a doctor; will remove the patient to a cool place, if possible; will have the patient lie down; administer aromatic spirits of ammonia or hot coffee or hot tea; give the patient sips of hot water to drink, but do not apply cold.

Apoplexy.

The nurse must be careful in making a diagnosis of apoplexy, as the symptoms of the unconscious state of intox-

ication differ very little from apoplexy. The chief difference is in the appearance of the pupils of the eyes. In apoplexy the pupils are large, and may be unequal in size. The eyeballs are insensible to touch, and in genuine apoplexy there is, usually, a paralysis of one side of the body. A paralyzed part will drop absolutely helpless if raised up and released. In caring for apoplexy the nurse should send for a doctor at once. She should lay the patient in a dark room, with his head raised. She should put ice, or a cold compress to the head, and a hot water bag at the feet. No stimulant may be given, and nothing should be done to produce vomiting.

Shock.

All injuries are more or less accompanied by shock. If the condition approaches prostration or collapse the nurse should send at once for the doctor. Meanwhile, she should warm the patient, and should stimulate with hot tea, hot coffee, and aromatic spirits of ammonia. If the case is critical the patient may be given a much larger dose of aromatic spirits of ammonia than was indicated for fainting. Rub the patient's limbs vigorously, rubbing toward the heart.

If shock is known to be due to hemorrhage, the hemorrhage must receive first attention, as to treat shock first might be to let the patient bleed to death.

Hot Applications.

In treating cases where heat is to be applied, the nurse will often find poultices or stupes more satisfactory than a hot water bag. The stupes and poultices furnish

moist heat, hot water bags and bottles, dry heat.

A poultice may be made from any substance which, when parboiled, is capable of holding heat and moisture. The most satisfactory home-made poultice, however, is made of flaxseed meal, which retains the heat for a longer period than such substances as bread, etc. Flaxseed, or linseed, meal may be mixed with from one-half to one-third the quantity of bran and still produce a satisfactory poultice.

In making a poultice the water must be boiling, the basin, spoon, etc., must be heated, and everything that will be needed must be at hand before beginning, in order that the poultice may not cool while it is being made.

Poultices may be spread on old muslin. The material used should be two or three inches larger than the required poultice, to allow for turning in the edges. Two or three cupfuls of boiling water are poured into a heated basin to make an average size poultice. Run the meal through the fingers of the left hand into the boiling water, stirring all the time with the right hand. When the mixture sticks together and will come clean from the sides of the basin, or will drop clean from the spoon, it is the right thickness.

Turn it out on the muslin, spread it evenly with a heated knife or spoon; turn the edges in all around, and stitch with a needle and thread. Roll the poultice up in a warm towel and carry it to the patient.

Before applying a poultice the nurse should hold it against her face to see that it is not too hot. When the poultice is in place it should be covered with a piece of thin rubber, which should be covered with a layer of cotton

in order to keep in the heat. The whole is kept in place with a binder or a bandage.

A poultice should not remain on over an hour and should be removed sooner if it gets cold. A cold poultice is uncomfortable and of no account.

Flaxseed poultices are used less now than in former years. There are upon the market various preparations containing clay as a base, that hold heat and moisture better than the old-fashioned poultices. These preparations have the further merit of being easily applied. Poultices made from them are of a uniform consistency, and are much more tidy than the usual flaxseed, bread or onion poultice.

To prepare a stupe lay a yard of linen toweling in a deep basin, letting the ends hang over the edge of the basin. Fold two or more layers of soft old flannel, or blanket, and lay it in the basin on the toweling. Pour boiling water over the flannel. Pick up the ends of the towel and twist them in opposite directions until the flannel is quite dry. If water is left in the flannel it will burn the patient. Apply this flannel directly to the patient's skin and cover it with a piece of light rubber sheeting, and that with a pad of absorbent cotton in order to retain the heat.

Hot Water Bags and Bottles.

Heat is frequently applied by the aid of the hot water bag and by bottles made of glass or metal. A jug filled with hot water is frequently used to heat up a bed. The rubber bag is most frequently used and more readily

adapts itself to any part of the body and bed. When a hot water bag has been filled the nurse should see to it that the bag has little or no air or steam in it. The steam on top of the water can be expelled by holding it against her chest and pressing it out and then immediately introducing the stopper.

Caution.

No hot water bag, metal or glass bottle, jug or any other hot substance should be placed next to any part of the patient until the nurse has held the same to her cheek long enough to make sure it will not burn.

Hundreds of patients have been severely burned in hospitals and homes by omitting to do this. This is likely to occur especially in the case of unconscious patients.

LESSON 10.

FIRST AID TO THE INJURED.

Wounds, including cuts, stab-wounds, gun-shot wounds, scratches, etc. Place a small portion of sterile gauze next the wound, cover with sterile absorbent cotton, and keep the dressing in place by means of a bandage until the doctor arrives.

Burns.

Dress by means of sterile cotton, saturated with Carron oil if it is available, or with linseed oil, or olive oil, and protect dressing by a bandage until the doctor arrives.

Acid Burns.

Bathe the injured part with water or if at hand, with water and weak ammonia, to wash away the acid, and then treat as other burns. In case of burns from carbolic acid, bathe freely with alcohol, or with lime water.

Fractures.

Definition: A simple definition of a fracture is a broken bone.

Classification: (a) Simple - In which the bone has a simple break.

(b) Compound - In which the bone has broken through the skin and protrudes.

(c) Complicated - In which the bone has punctured another organ, such as a fractured rib puncturing the lung.

Signs and symptoms, or the points that may enable us to tell when a bone is broken:

(a) History of an accident or injury.

- (b) Pain at, or near, the point of fracture.
- (c) Loss of power in the part, or inability to move it.
- (d) Swelling about the point of fracture.
- (e) Deformity of the limb.
- (f) Crepitus - A scratching sensation when the broken ends are moved against each other.

Treatment:

(a) Keep the patient as quiet as possible, as any movement may make the fracture worse and cause more injury to the tissues around the fracture.

(b) Immobilize the fracture, that is, keep it from moving, which may be done as follows:

1. Splints - These may be made from thin boards, shingles, laths, heavy cardboard, or other firm material.

The splint should be padded well with cotton and should be long enough to extend well above and below the point of fracture.

After the splint is applied it should be held in place by means of a bandage, handkerchiefs, belts, straps, heavy cord, etc.

2. Other measures - Place one or two bricks wrapped in heavy cloth, blanket, etc., on either side of the fracture.

Use pillows or blankets held in place by means of bandages, etc.

Caution.

In case of compound fracture never attempt to adjust the parts for fear of carrying infection into the tissues.

External Hemorrhage.

Definition: External bleeding from any portion of the body.

Classification: (a) Arterial - Bleeding from an artery, indicated by bright red blood that spurts from the wound.

(b) Venous - Bleeding from a vein, indicated by a steady flow of dark red blood.

(c) Capillary - Bleeding from capillaries, indicated by an oozing of brick-colored blood.

Treatment:

(a) Rest - keep the patient as quiet as possible.

(b) Pressure - Digital, by means of the finger or thumb. Pad of cotton or gauze held in place by means of a bandage.

Tourniquet - This may be improvised from an elastic suspender, handkerchief, heavy cord, bandage, etc. The bandage is tied around the injured member, between the injury and the heart. A stick is thrust through the knot and twisted until the tourniquet is tight enough to end the bleeding.

The points to be remembered are not to apply it too tightly, nor allow it to remain on too long, as the continued pressure may shut off all the blood supply and result in gangrene. When the doctor is long in arriving, loosen the tourniquet every ten or fifteen minutes, and renew the pressure as soon as the hemorrhage begins again.

(c) Thermal - Hot water as warm as it can be borne by the hand. Pour this over the wound continually.

or apply heavy towels wrung out of the hot water.

Sprains.

Definition: Joint injuries resulting from violent stretching, twisting, or partial breaking of the ligaments of the joints.

Symptoms: Immediate, severe pain, which increases when the joint is moved, and swelling of the joint.

Treatment:

- (a) Absolute quiet and rest.
- (b) Hot or cold compresses applied to the injury.
- (c) Rubbing with alcohol, arnica or witch-hazel.
- (d) The use of a splint, such as was used for fracture.

Remark: Severe sprains are not minor injuries and should always be cared for by a physician. In very severe cases an X-ray picture should be taken in order to be certain that there is no dislocation or fracture of bones.

Unconsciousness due to Drowning or to Asphyxiation.

Treatment: Employ artificial respiration until the doctor arrives.

To do this first strip the patient to the waist. Lay him on the ground, face down, but turned somewhat to one side. Stretch the patient's arm full length over his head. Kneel at one side of the patient, or astride him; but do not rest your weight upon him. Place your hands over the short ribs across the small of the back, with the thumbs nearly touching. Press upon the body, keeping the fingers well spread out so as to cover as much area as possible. The

nurse must be careful not to exert too great pressure or she might fracture one of the patient's ribs. Release the pressure. Repeat this movement twelve to fourteen times a minute. The treatment should be persisted in at least an hour and a half. Many a life has been lost by stopping treatment when the first signs of returning life were noticed.

As soon as the patient is able to swallow, give him some warm brandy, diluted with equal parts of water. When fully restored place the patient in bed and cover him with blankets. Keep the patient quiet. Do not give any food except hot, beef tea, or hot coffee, for several hours.

Dog Bite.

In all cases of dog bite take the patient to a doctor immediately, or call a doctor if the patient is unable to go. There is always too much danger of infection from a dog bite to make it safe for the nurse to attempt to treat it herself.

Insect Bites, Spider Bites and Bee Stings.

Treatment: Apply household ammonia to the bite. In cases of severe bee stings, and in cases where ammonia does not allay the pain, go to a doctor, or call a doctor.

Bandages.

Kinds:

(a) Triangular - made by folding a square of muslin or cheese cloth, and cutting on the diagonal. This bandage is used to bandage the head, the foot, the hand, the chest, or may be used as an arm sling.

(b) Roller - made by rolling tight a long

strip of gauze or muslin. It is the bandage most often used. It may be from one-half inch to six inches wide. When applying it hold it with the roll on top, and in the right hand.

(c) Four-tailed - made by slashing each end of a roller bandage. This is useful for face bandaging.

LESSON 11.

POISONS.

In all cases of poisoning the nurse must send promptly for a doctor. There are certain substances which it is safe for the nurse to give in all cases of poisoning. These are: Milk, raw eggs beaten up in water or milk, and strong tea.

It is safe to give olive oil, sweet oil, or salad oil, while waiting for the doctor's arrival, in all cases except cases of phosphorous poisoning, which is most likely to occur in the case of children who have gotten hold of phosphorous matches.

It is safe to give emetics in all cases of poisoning except when the lips, tongue, and throat are badly burned by acids or by caustic alkalis.

In any emergency where it is impossible to secure a doctor the nurse will give an emetic. One table-spoonful of salt, or one dessert-spoonful of mustard, added to a cupful of lukewarm water, makes a satisfactory emetic. After the patient has vomited thoroughly a large dose of castor oil may be given. This may be followed by quantities of milk or beaten raw eggs.

Some of the poisons most commonly used and the treatment for them are, as follows:

Carbolic Acid.

Symptoms: White spots on the lips, mouth and

tongue; vomiting; stupor; an odor of carbolic acid on the breath.

Treatment: Send for a doctor at once. Alcohol is the best thing to neutralize carbolic acid. If the carbolic acid has just been swallowed and diluted alcohol is close by, administer it at once. Soapy water is likewise good; also lime water. If nothing better is at hand give large quantities of milk. Apply external heat. Stimulate by rectal injections.

Arsenic.

Arsenic is found in various forms of dyes, vermin destroyers, Fowler's solution, rat paste, poison fly paper and Paris Green.

Symptoms: Immediate collapse, severe burning in the throat, excessive thirst, violent cramps, vomiting.

Treatment: Call a doctor. Give an emetic, followed by castor oil, a stimulating enema, and black coffee.

Mercury Poisoning.

Mercury is found in bichlorid of mercury, Blue Ointment, etc.

Symptoms: Burning pain in the mouth, throat, and stomach; vomiting of mucous and bloody fluid; severe abdominal pains with purging; and later, diarrhoea.

Treatment: Call a doctor; give an emetic, give raw eggs and milk, flour and water, castor oil, external heat, and a stimulating enema of black coffee.

Alkali Poisons.

These include ammonia, caustic potash, caustic soda, lime and lye.

Symptoms: Acute severe burning pain, vomiting, and purging.

Treatment: Call a doctor at once. Give quantities of vinegar or lemon juice; give olive oil or sweet oil. Unless the throat and mouth are burned give an emetic.

Iodine.

Symptoms: Burning and blistering of the mouth, pain in the throat and stomach, vomiting, purging, excessive thirst, and collapse.

Treatment: Send for a doctor; give an emetic; give starch and water by mouth.

Phosphorous.

Phosphorous is used on some brands of matches and in several poisons for vermin.

Symptoms: Pains in the abdomen, vomiting, and purging.

Treatment: Send for a doctor; give an emetic; give one-half teaspoonful of turpentine in a glass of milk or water.

Narcotics.

The most common narcotic poisons are morphine, laudanum, paregoric, opium, Dovers powders, and chloral.

Symptoms: Drowsiness, nausea, convulsions, and coma.

Treatment: Send for a doctor. Keep the patient awake by dashing cold water on the spine and chest, by keeping him moving, by administering strong coffee, and other stimulants. It is desirable that the stomach should be emptied by an emetic. It is absolutely necessary that the patient be kept awake.

Anaesthetics.

Poisoning may result from the use of ether or chloroform.

Symptoms: Insensibility and relaxation of all muscles.

Treatment: Remove the supply of ether or chloroform; send for a doctor; open the windows, and fan the patient.

Acids.

Acid poisoning is most often caused by the use of acetic, muriatic, nitric, oxalic, sulphuric, and tartaric acids.

Symptoms: Intense pain followed by shock. Nitric acid leaves yellow marks on the lips and tongue. Sulphuric acid leaves black marks on the lips and tongue.

Treatment: Send for a doctor; give an emetic after first giving a large quantity of warm water to dilute the poisonous material.

Mushroom Poisoning.

Symptoms: Colic, nausea, vomiting, diarrhoea, difficult breathing, a weak, irregular pulse.

Treatment: Send for a doctor; give an emetic; give a dose of castor oil; apply heat to the stomach and to the feet.

Ptomaine.

Ptomaine poisoning is caused by spoiled food, most often by spoiled meat, fish, crabs, lobsters, and oysters.

Symptoms: Internal pain, vomiting, purging, faintness, thirst, and a cold, moist skin.

Treatment: Treatment is the same as for mushroom poisoning.

(Poisons)

Ivy Poisoning.

Ivy poisoning differs from the above mentioned list of poisons in that it is usually external.

Symptoms: Small blisters in clusters, accompanied by acute itching and swelling.

Treatment: Cover the affected part with a paste of soda and water; paint it with a hot solution of potassium permanganate. If this treatment does not allay the poisoning go to a doctor.

ADENOIDS

LOCATION OF
ADENOIDS
SHOWN X

ADENOIDS
cause mouth-
breathing,
frequent colds,
catarrh, deafness,
and deformity of the
jaw and chest.

They induce stupidity and
stunt mental and physical growth.

**DON'T LET YOUR CHILD
BE SO HANDICAPPED.**

Removal of Adenoids
is a simple and brief operation.

**GIVE YOUR CHILD
A CHANCE TO BREATHE.**

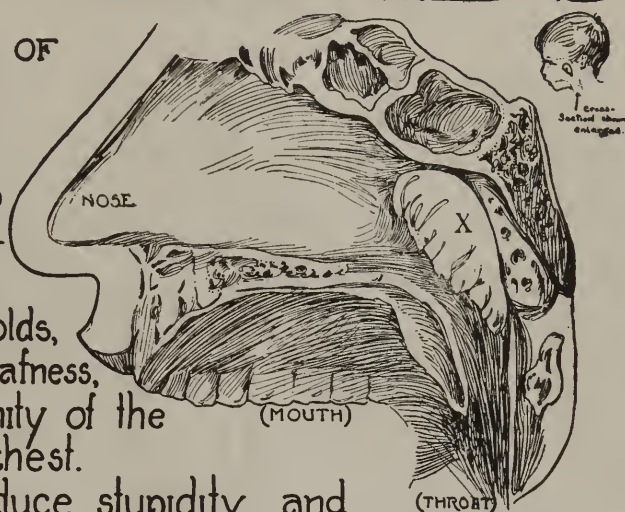
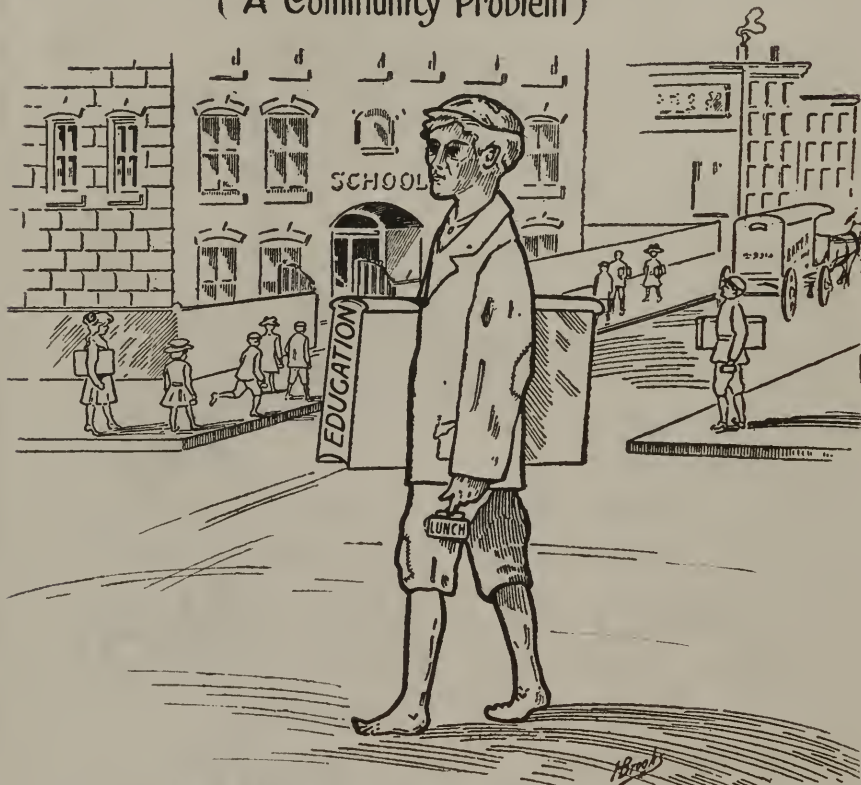


FIGURE 14.

EDUCATION $\overline{\text{vs}}$ NUTRITION

A Growing, Learning Child must be properly Nourished.
(A Community Problem)



HEALTH MUST NOT BE SACRIFICED TO EDUCATION

What will it profit a child, the man and a community if he gain a world knowledge and lose his health ?

A wise community will safeguard its future well-being by recognizing its obligations to its child citizens.

There must be No Under-fed School Children.

FIGURE 15.

LESSON 12.

THE HUMAN BODY.

The human body may be likened to a stove which burns fuel. Burning fuel creates heat, which in turn liberates energy. The steam which drives the steam engine is produced by heat. The energy which enables the human stove or machine to walk about, to think, to talk, is produced by burning fuel. We commonly call this fuel "food". Food is taken in at the mouth, where it is chewed by the teeth, and mixed with saliva. It is then swallowed into the stomach where it is partly divided up into small particles by the action of hydrochloric acid, pepsin, and rennin.

The stomach then contracts and pushes it into the intestines where it is again more finely divided and mixed with the pancreatic juice and bile which convert a large part of it into a liquid substance known as chyle. This liquid is then absorbed through certain channels in the intestines, and finally reaches the blood, which carries it throughout the entire human machine.

Need of Air.

The human body needs air containing oxygen, just as an ordinary stove needs air containing oxygen in order that it may burn. The ordinary stove admits its air underneath the fire, but there is a stove on the market which takes its air through a grating at the very top. It is known as a hot blast stove. The human stove or machine likewise takes its air in at the top through certain open-

ings which we call the nostrils or nose. The air is drawn down through the nose and other tubes into the lungs, where it passes through the thin walls of the air cells directly into the blood, which carries the oxygen from the air to every part of the human machine. The oxygen now has a chance to come in direct contact with the particles of the food which were eaten and absorbed into the system. It sets a slow fire in these particles of food from which heat results. This heat is then applied to the mechanism of the human machine and produces what we call energy.

It has been stated, and well stated, that "In heat there is life, in cold there is death".

The human machine is made up of a number of small pieces called cells, fastened together with a cement-like substance so as to make complete parts. The energy liberated by burning with the oxygen which has been breathed into our systems is applied to these parts which work together systematically, just as do the different parts of an automobile; so we should look upon the human body as a mechanism which requires at all times a proper amount of food or fuel, and a proper amount of air containing oxygen to burn this food or fuel.

A small amount of draught will readily cause fine, dry shavings, or pine wood finely divided, to burn quickly. It takes a larger amount of draught and more care to set fire to hard coal and burn it. So it is with the human individual. The man who lives constantly in a house and does not get a large amount of fresh air must carefully select his diet so that it may be digested and burned, where-

as a man who has strenuous and hard labor outdoors can burn coarser food. The amount and quality of food that the farmer burns could not be handled safely by the city man with a sedentary occupation.

The nurse should always realize that man is an air animal; that he cannot live ten minutes without it; that air is just as essential for his existence as food; that in times of sickness, when the human mechanism is out of gear and perhaps the machine about to stop, the proper quality and quantity of air may bridge the patient over a crisis and thereby save a life; and that, when the fires are low, to shovel in large quantities of food or fuel is to completely extinguish the fire, or cause the death of the patient.

Formation and Disposal of Body Wastes.

The nurse should also realize that wherever fuel is burned there results not only heat, but also smoke. The smoke formed in the human body we call carbon dioxide. It is breathed out through the same channels through which the air is breathed in, - the nostrils and the air tubes.

The nurse should also remember that whenever a fire is kindled we have ashes, as well as heat and smoke. The ashes that are formed in the human stove are finely divided and must be carried out through the blood vessels from the cells in which they were burned. In order to do this they must be mixed with fluid, and, therefore, water is an essential substance and absolutely necessary when there is much fire in the human body.

The normal temperature of the blood is 100° F., but in times of fever the fires burn more briskly and the temperature may go to 102° , 104° , even to 107° and 108° . The greater the fire the more fluids are necessary in order to furnish the proper amount of fluid to carry away the ashes that are caused by such burning.

Two organs in the human body are especially designed to take these ashes away from the fluid. These organs are called the kidneys. They are constantly at work, every second of the day and night, pulling out of the blood, so to speak, the little particles of ashes and sending them into little tubes, which tubes carry them to a larger tube, which in turn, carries them to the bladder.

This crude bird's-eye-view of the human body is presented to you as nurse students, not that it is in any manner complete, but simply to give you a little better perspective of the human body.

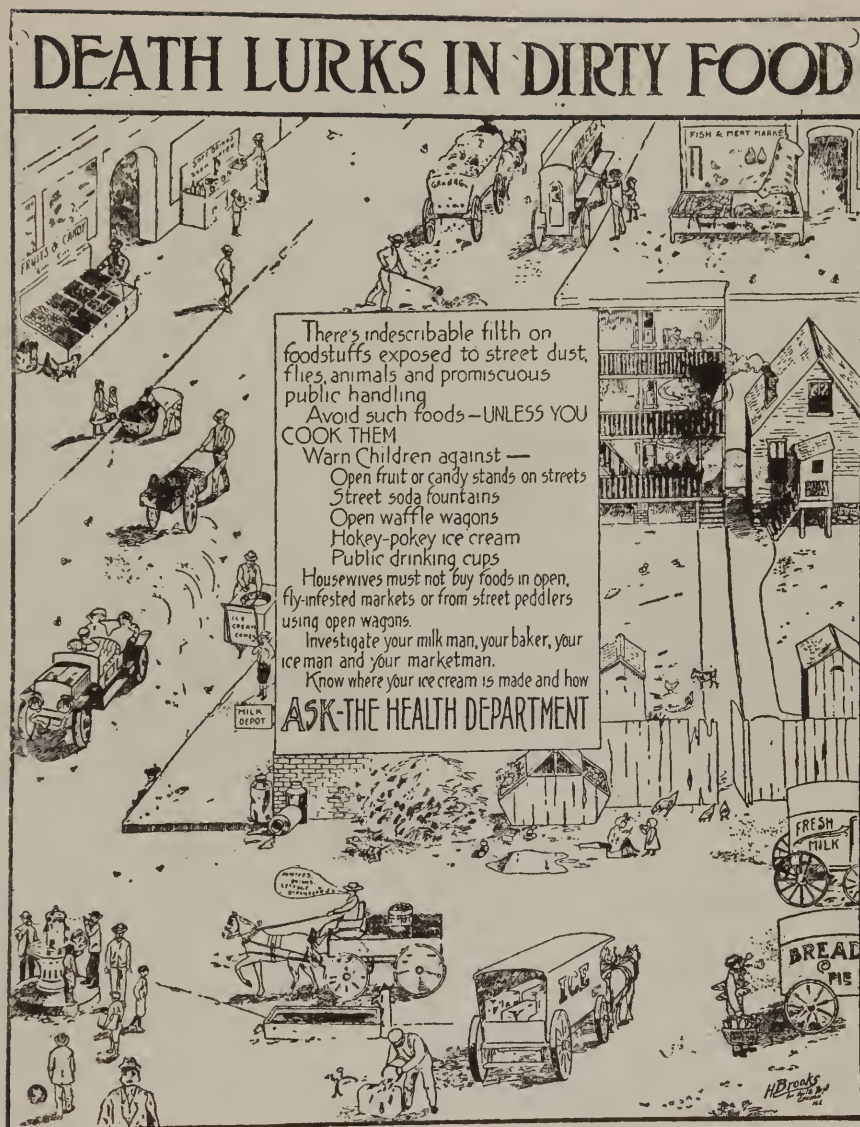


FIGURE 16.



FIGURE 17.

LESSON 13.

FOOD.

A food is anything which, when taken into the body, is capable of building or repairing tissue, or of supplying heat and energy.

The body is made up of a number of chemical elements, of which the most important are: Oxygen, hydrogen, carbon, nitrogen, sulphur, iron, phosphorus, magnesium, calcium, potassium, and sodium. All of these substances must be supplied to the body by the food which we eat, the water we drink and the air which we breathe. These elements must be kept in their proper proportions if health is to be maintained.

There are in the body, in addition to these chemical elements, certain substances that are little understood, but that are absolutely necessary to health and growth. They are known as vitamins.

Vitamins are known to be abundant in milk, butter, and potatoes. It is for this reason that these foods form staples of our diet and that substitutes for them are not satisfactory. For example, oleomargarine contains fat, just as does butter, but it lacks, so far as we now know, these vitamins.

Foods are usually classified as proteins, carbohydrates, fats, mineral salts, and water.

Proteins.

Proteins repair and build tissues. They are of both animal and vegetable origin. The common animal

proteins are: Meat, fish, eggs, milk and cheese. The common vegetable proteins are: Peas, beans and lentils. Wheat, oats and barley also are rich in proteins.

Animal foods are richer in protein than the vegetable foods. They are of high nutritive value and are digested with very little residue. This is the reason why eggs and milk are the two foods that are most often given to children, invalids, and elderly people.

The vegetable proteins are of similar composition to animal proteins but are less easily assimilated. All proteins contain sulphur. Gluten from wheat is the most important cereal protein, and for this reason gluten bread figures largely in the diet of persons suffering from diabetes.

Carbohydrates.

The carbohydrates include all starches and sugars. The most important, common carbohydrates are cane sugar, molasses, candy, maple sugar, glucose, milk sugar, beet sugar, grape sugar, potatoes, beets, cereals, rice, hominy, white flour and all starches.

Fats.

Fats are the most concentrated foods we have. They are secured from both animal and vegetable sources. The most common animal fats are: Cream, butter, meat fat, cheese, lard and oleomargarine. The most common vegetable fats are: Olive oil, cotton-seed oil, maize or corn oil, co-

conut oil, peanut oil, cocoa butter and nuts.

Because the fats are concentrated foods one must be moderate in their use.

Mineral Salts.

Mineral salts are absolutely necessary for repairing and building bone and tissue. About 5 percent. of the weight of the body is mineral salts, five-sixths of which is found in the teeth and bones. The most common of these mineral salts is calcium, or lime.

Sodium Chlorid.

About 60 percent. of the salt contents of the blood is sodium chlorid, or common salt.

Calcium.

Calcium is found in milk, eggs, rice, asparagus, spinach, and other vegetables, and natural waters.

Phosphorus.

Phosphorus is found in the nuclei of all cells. It is present in milk, eggs, fish, red meat, fowl, and cereals.

Potassium.

Small amounts of potassium are needed for the muscles and tissues. It is found mainly in green vegetables and mineral waters.

Iron.

Iron is needed for the red blood cells. Iron is found in red meats, eggs, oatmeal, wheat, spinach, potatoes, peas, beans, beets, lettuce, apples and bread. It is particularly plentiful in green vegetables as spinach, beet tops and lettuce. People whose blood is deficient in iron should eat abundantly of these vegetables instead of taking

tincture of iron.

Sulphur.

Sulphur is found in eggs, milk, corn, turnips, cauliflower, asparagus and other vegetables.

Water.

Water is composed of hydrogen and oxygen. It forms about 60 percent. of the human body. We derive it from our drinking water, beverages, soups, milk, meats, fruits and vegetables. If given enough oxygen, water and heat, we can live for several weeks without food. Cases have been known where persons lived as long as forty days without food.

Water is necessary in the body to distribute nutriment and carry off waste products, to aid secretion; to distribute the body heat; to furnish fluidity to the blood and other fluids of the body; to dilute the poisonous products of oxidation.

It is part of the duties of the home nurse to see that the well are fed such foods as will tend to keep them in good health. To do this she must know not only which foods contain vitamins, and which foods are rich in proteins, carbohydrates, fats, and mineral salts, but the heat value of such foods expressed in calories.

A calory is a unit of measure of heat. We say food has a value of 100 calories if its use as fuel for the human "stove" will produce 100 calories of body heat.

The number of calories that an individual person needs daily, in a given climate, depends largely upon age and occupation. A baby a year old needs from 400 to

600 calories per day. A pint of milk, if properly digested, will create about 200 calories of heat. A slice of toast, an egg, a small slice of fried bacon, a medium sized baked potato, a large apple, or an orange will each produce about 100 calories of heat.

A clerk will not require so much food nor so rich food as the lumberjack. One may be kept in good health by food that will produce 2100 calories of heat per day, while the other may require food that will produce 3200 calories, or even more.

The nurse must remember, however, that it is not sufficient merely to feed the lumberjack such food as will produce 3200 calories of heat per day. There must be a proper balance between proteins and carbohydrates.

LESSON 14.

FOOD FOR THE SICK.

Diet is of more importance in the treatment of most diseases than medicine. Determining the diet is, therefore, entirely a matter for the doctor. The nurse will have charge, however, of preparing the food, and serving it.

When preparing food the nurse should be careful that all utensils used in cooking are perfectly clean, and that the food used is of good quality.

Serving Food to the Sick.

The patient's hands and face should be wiped with a damp cloth before he is given food. His position in bed should be made as comfortable as possible. His mouth should be kept clean. It should be rinsed both before eating and after eating with a mouth wash. If the mouth is dry, it should be moistened from time to time with a little glycerine, water, and lemon juice. If the patient is helpless, the mouth may be cleaned out with cotton fastened around an orange wood stick, or wound around the finger.

If the patient is helpless, care should be taken in giving food, giving it slowly and seeing that each mouthful is swallowed before another is given.

When feeding an unconscious patient, the nurse must be careful not to choke him. She should open the mouth by pressing the chin downward. She should then place food far back in the mouth, and press the tongue down gently with the

spoon. As a rule, the patient will swallow. If not, it will probably be necessary to administer his food by enema.

The nurse should try to tempt the patient's appetite with variety, dainty service, and small surprises. The doctor will direct the diet, but the nurse will usually have to decide just what is to be served at each meal. Generally speaking, it is better to serve a little of several things rather than a quantity of one thing.

It is particularly important that the patient should be kept as cheerful as possible while he is eating, for worry, anxiety, or temper always interfere with digestion.

Hot food should be served very hot, and cold foods should be served cold. Liquid should be given from a feeding cup, a glass tube, or a small, wide-mouthed jug. The tray should be as daintily arranged as possible. The dishes should be the best in the house. The nurse would do well to clip jokes or quotations that she thinks would amuse or interest the patient from magazines or newspapers, and read them to the patient while he is eating, in order to keep the patient's thoughts as much as possible from himself.

Diet for Colds, Tonsillitis, Chickenpox, Measles, Ptomaine Poisoning, etc.

In these diseases the heart and kidneys must be saved from any extra strain. The diet that will best accomplish this result is one of fluids. The quantity of fluid given at a meal should be small, and the intervals between meals should be short, usually about two hours, until the fever that always attends these diseases has decreased.

The following foods constitute a fluid diet and give enough variety to choose from, so that the patient need not be given the same thing over and over.

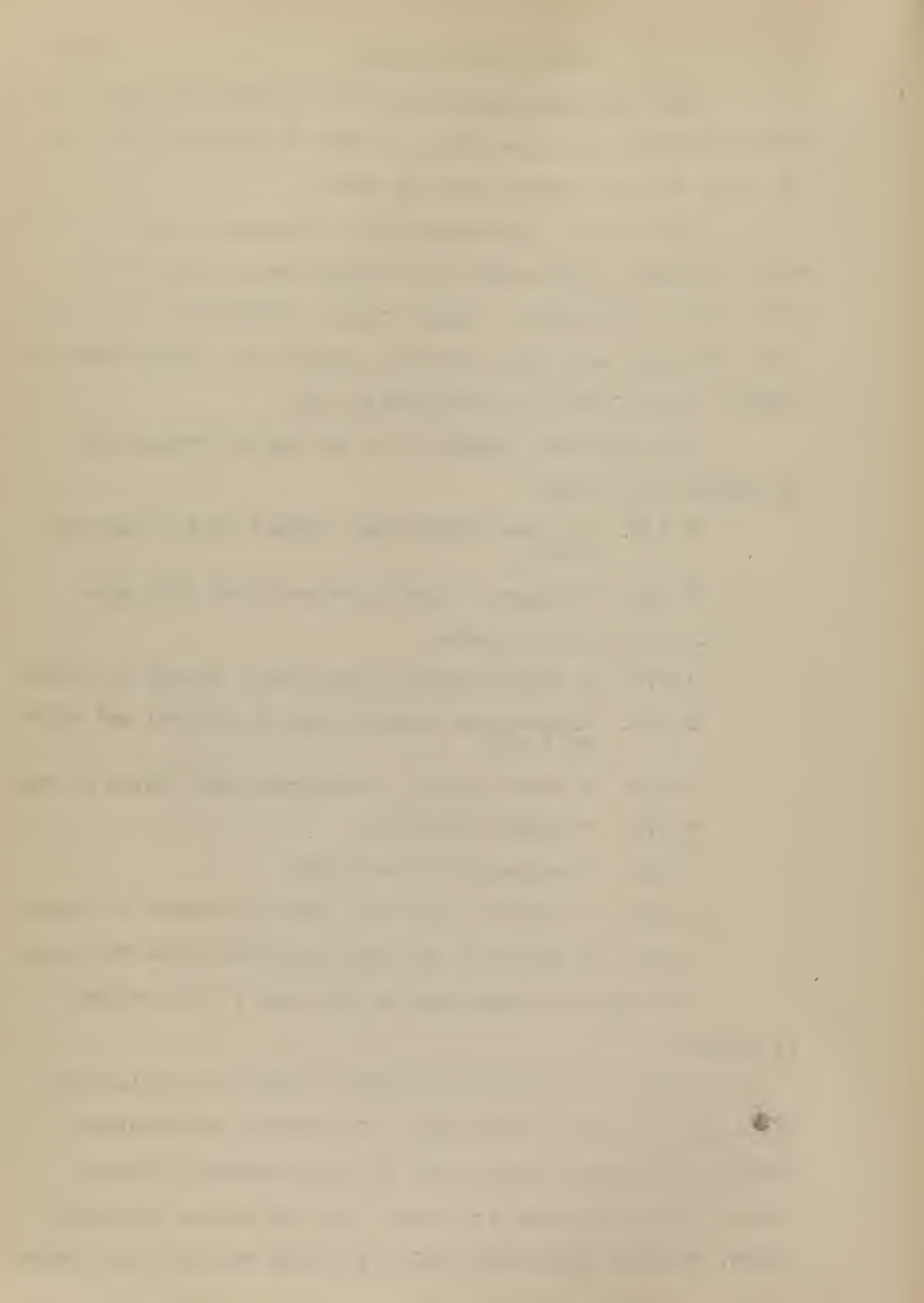
Whole milk, peptonized milk, albumenized milk, butter milk, Koumiss, malted milk, milk shake, milk punch, cream, whey, fruit beverages, - either plain, albumenized, or mixed with raw eggs, egg nogg, milk and ginger ale, cocoa, strained gruels, plain broth, and broths with egg.

The following schedule for one day's feeding may be useful as a guide:

- 7 A.M. 6 ounces (about one cupful) of hot milk or cocoa.
- 9 A.M. 6 ounces of broth, re-enforced with egg.
- 11 A.M. A milk shake.
- 1 P.M. 4 ounces oatmeal gruel and 2 ounces of cream.
- 3 P.M. Albumenized orange juice (4 ounces) and white of 1 egg.
- 5 P.M. 6 ounces broth, re-enforced with white of egg.
- 7 P.M. 6 ounces of cocoa.
- 9 P.M. 6 ounces of malted milk.
- 12 P.M. 4 ounces of hot milk and two ounces of cream.
- 4 A.M. 4 ounces of hot milk and two ounces of cream.

The night feedings may be omitted, if the patient is asleep.

After the temperature becomes normal the following foods may be added to the diet: Cream soup, soft-boiled, coddled, or poached eggs; soft or baked custard; junket; cocoa; plain, home-made ice cream; milk or cream; buttered toast; cereals; gelatine; jellies; fruit; meat jellies; baked



potatoes; apple sauce; baked apple; fruit whip; blanc mange;
broiled lamb chops; chicken; sweetbreads.

The following schedule for one day may be used as
a guide:

- 7:30 A.M. 3 oz. cream of wheat and 1 oz. of cream.
1 soft-boiled egg.
1 slice of buttered toast.
6 oz. cocoa, milk or coffee.
2 table-spoonfuls of strained prune
pulp with 2 oz. of cream.
- 10:30 A.M. Albumenized orange juice,
White of egg beaten light and 5 oz.
orange juice added.
- 12:30 P.M. Cream of tomato soup, 6 oz.
1 baked potato with butter.
1 slice of buttered toast.
1 cup cocoa, milk or butter milk, tea
or coffee.
- 3:30 P.M. A glass of milk.
- 6:00 P.M. 2 slices of buttered toast, moistened
with 4 oz. of milk and 2 oz. of cream.
1 soft cooked egg, or 3 table-spoons of
well cooked cereal.
2 table-spoonfuls of boiled rice.
2 table-spoonfuls of applesauce, served
with 1 table-spoonful of cream.
1 cup of cocoa, malted milk, whole milk,
tea or coffee.
- 9:00 P.M. 4 oz. of milk with 2 oz. of cream.
1 cup of cocoa, or malted milk.

Diet for Typhoid Fever and Scarlet Fever.

The treatment for these diseases consists almost entirely in proper feeding and good nursing care. The kidneys are under a great strain in acute infectious diseases, especially in scarlet fever, and a poorly selected diet may overwork them and cause development of nephritic conditions. A diet that may be suited to one typhoid case may disagree violently with another. Determining the diet is, therefore, entirely a matter for the doctor, and the nurse should not risk making the slightest change in the diet that he orders. So slight a thing as a bit of fruit, or a bite of meat, given contrary to doctor's orders, has been known to cause the death of a typhoid patient. Particular care must be taken during the period of convalescence, and the nurse must remember that the patient's appetite is absolutely no guide as to what he ought to have.

The chief guide in the diet for typhoid is found in the condition of the stools. The doctor in charge of the case should see the bowel discharges every day.

Diet for Diabetes.

In diabetes, sugars are not fully utilized by the body, and are excreted in the urine in the form of glucose. The treatment of the disease is wholly by means of diet and hygiene. The patient's urine should be frequently examined by the doctor, as it is the guide in determining a diet that will agree with the individual case. In this disease a diet that agrees with one patient may be very injurious to another. It is particularly necessary that the

diet ordered by the doctor should be intelligently prepared by the cook. The two things that must not be included in the diet of a diabetic, are starches and sugar. Consequently the patient must avoid sugar, syrup of all kinds, beets, potatoes, peas, parsnips, carrots, beans, arrowroot, sago, tapioca, oatmeal, barley, sweet fruits, chocolates, cider, malt, liquors, champagne, and sparkling or sweet wines.

The patient is allowed to have meats of all kinds, fish, poultry, game, eggs, cheese, butter, cream, lettuce, celery, cucumbers, watercress, dandelions, young onions, cabbage, cauliflower, spinach, beet tops, string beans, artichokes, mushrooms, almonds, walnuts, sour oranges, coconut, grape fruit, alkaline waters, and gluten bread.

Diet for Tuberculosis.

The nurse must be certain that the patient suffering from tuberculosis receives sufficient food. If the patient's digestion is good, he should be fed a very nutritive diet, including meat, milk, eggs, cream, fats, and oils.

In many cases of tuberculosis the patient suffers from digestive troubles. Such patients should be warned against swallowing the sputum, for doing so is likely to cause intestinal tuberculosis:

The patient should take two or three quarts of milk a day if possible. He should always take at least one glass of milk at meal times and another at bed time. In addition to milk the tuberculous patient should take as much butter, cream, fat bacon, olive oil, and cod liver oil as he can digest.

Diet for Nausea and Vomiting.

In all cases of persistent vomiting the doctor should outline the diet. Usually well nourished patients who suffer from vomiting, should refrain from eating any food for ten or twelve hours. As a rule the patient should be given cold food. The following foods are often prescribed for patients suffering from nausea:

Cracked ice, pancreatinised milk, milk and lime water, seltzer water, koumiss, whey, matzoon, beef extracts, scraped raw meat, strong black coffee, sour lemonade, and clam broth.

In very severe cases it may be necessary to feed the patient by means of enemata.

In mild cases it is usually well for the patient to eat little except dry crackers, or dry toast, for a day or so.

PROTECT YOUR BABY FROM FLIES

FLIES FOR FILTH AND
FEVER

T SCREENS FOR CLEANLINESS
AND HEALTH



FIGURE 18.

HOME PASTEURIZATION OF MILK

The following method carefully employed will destroy disease-producing bacterial life in milk without affecting the food value of the product:

In a small tin pail place a saucer; on the saucer stand the bottle of milk (leaving the cap on the bottle). Now pour sufficient hot water (not so hot as to break the bottle) into the pail to fill same to within three or four inches of top of bottle and then stand the pail and its contents on the stove. The instant the water begins to boil remove the bottle of milk from the pail and cool it as rapidly as possible.

Keep the bottle of milk in the ice-box and keep the cap on the bottle when not in use. When you remove the cap do so with a clean fork prong and be careful that the milk side of the cap does not come in contact with anything dirty.

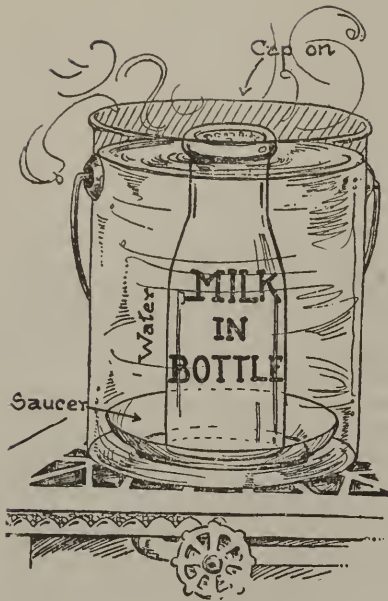


FIGURE 19.

WHAT KILLS THE BABIES IN CHICAGO

DEATHS UNDER 2 YEARS OF AGE - 1912 TO 1918

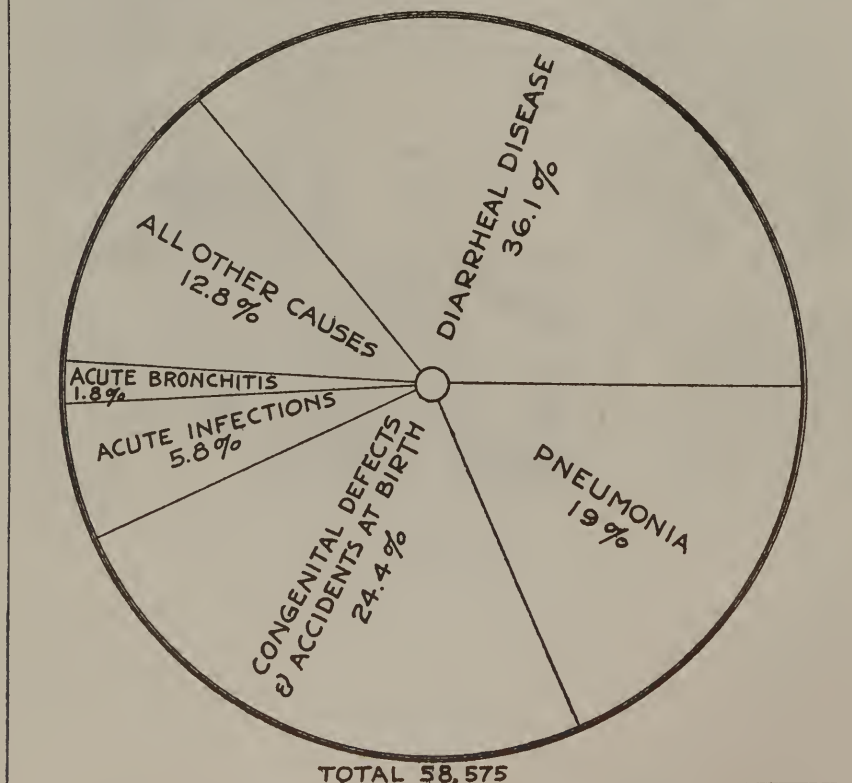


FIGURE 20.

LESSON 15.

THE SANITATION OF THE HOME.

The terms sanitary and sanitation are much abused. They have their origin in the Latin word "sanitas", meaning sound or complete, wholesome or healthy. We say "a sound apple", meaning one that is not decayed but is complete and wholesome. These terms, therefore, when applied to the home, mean wholesome, clean and well kept, that is, normal, fit for normal growth and development. In the last analysis sanitation of the home amounts to little else than good housekeeping. "The first law of sanitation is the quick removal of all wastes", and "The first requisite for cleanness is light, - direct sunlight, if possible" Essentials.

There are certain fundamentals of civilized life which can only be supplied to man by his surroundings. Three of these fundamentals as catalogued by the ancient philosophers are, (and you will recognize them ^{as} once as necessities).

1. Air for breathing.
2. Water for drinking and washing.
3. Food for nourishment.

To this list the sanitarian of the present day rightly adds four others:

4. Clothes, and a House for shelter. Living in a climate where the temperature sometimes falls to zero we require adequate clothing for the protection of

our bodies, and a house also to shelter us. Someone has called the house, "The outer garment of the man", implying that it serves the same kind of purpose as does clothing.

5. Light for physical development.

Doubtless all of you have seen the potato sprout grown in the cellar, which is absolutely devoid of the green coloring natural to vegetation. So with human beings who live in the dark. It is a well recognized fact that the distinctive red cheek of health cannot be found unless one lives in natural light and has fresh air.

6. A degree of Freedom from Noise.

People vary greatly in nervous temperament. While occasionally one may be found who can accustom himself to working in the din of a boiler shop, many sensitive people are driven almost distracted by the ordinary noises to which we are subject in a great city. More than we realize are we made uncomfortable by lack of reasonable quiet. In the past few years we have learned that many noises of the city, such as the blowing of locomotive whistles, the tremendous rattle of the street and elevated car, have a disturbing effect upon normal conditions of development.

7. A suitable Mental Stimulus

We often read in the paper that someone desiring to drown himself has been prevented from jumping into the lake. We know that some high office buildings have found it necessary to put screens in their interior courts in order to prevent the sacrifice of life of those who felt an uncon-

trolled desire to jump over the railing. Not all of us are so distracted as to wish to commit suicide, but we know full well that unless a worker feels that his efforts are worth while, and goes about his daily task with certainty that life is worth living, health and strength are affected. We may well classify a normal mind as an important factor in health and well being.

If the house or the housekeeping fouls the air we breathe, or the water we drink, or the food we eat, it is not a suitable home. If the house, likewise, does not afford adequate shelter from dampness, and a sufficient degree of light, it is not a proper home.

Things which affect the home.

I. The things we ought to get rid of.

II. The things we ought to bring in.

III. The things we ought to keep out.

I. Things we ought to get rid of may be divided into six classes, most of which consist of various kinds of waste materials:

1. Sewage, that is, the liquid wastes which are produced in our houses. The clean water which comes into our homes is quickly fouled, and becomes a waste of which we should promptly rid ourselves.

11. Food wastes, such as we ordinarily call garbage.

It should be noted that these in general are not dangerous, but only offensive and unclean. They should be kept covered from flies, as dry as practicable, and

removed as promptly outside of the house, and, indeed, away from the premises, as conditions permit. Where practicable by reason of the premises having garbage burners, the housewife should wrap garbage and sick room wastes in newspapers and make the package secure from flies and at the same time inoffensive. These should be kept with other like packages, until removed from the premises to be burned in a stove or furnace.

111. Other refuse, such as ashes, old papers, worn out utensils, broken furniture, old shoes, and trash of various other kinds. This kind of refuse may also for the most part be burned. Where a kitchen stove is used, quite a quantity of it can be thus disposed of; and, likewise, in the winter, in the heating furnace. There is not much danger from it, with a single exception. Any old cans or broken bottles or discarded utensils, which will hold water, are a distinct menace to health because if thrown out in the yard or alley, or a vacant lot, they collect rain water, and if allowed to lie for a few days afford opportunity for mosquito breeding. The extent to which the nuisance of mosquitoes is due to such water containers is little realized. But it is true, for this reason, that considerable pains must be taken to get rid of such vessels as will hold water.

1V. Dust, another form of waste.

Perhaps you have not counted the dust which originates in your home as a specific form of waste; such, however, is its proper classification. It is, of course,

fine, and composed of broken up materials from the wear of floors, carpets, furniture, clothing, bedding, etc. While it mainly consists of hair and vegetable fiber, there are two other components. If one's foot is drawn across the floor we notice the presence of grit on the floor. The finely ground stone from the street which is contained in the earth tracked into our houses on our shoes, and to which a contribution is made from the plaster on the walls when they are brushed, is a distinctly objectionable element of dust. Experiments made among those who work in various materials has shown that the stone cutter is particularly subject to difficulty from the small particles of stone which he inhales, and which wound the lining of the air passages, and leave the surface of the membrane open to infection by disease germs. To a less extent this is true of the gritty dust which we find in our homes, whether from the floors, or blown in from the dusty street.

Someone has said that we may always find bacteria riding about on the dust particles which we see in the sunbeams. The housekeeper who cleans house and makes much dust in doing so is invariably rewarded by getting infected with bacteria that produce a cold. Frequently other members of her family suffer likewise. The nurse should see to it that dust is never thrown into the air with a broom. The careful nurse or housekeeper always wears a cloth over her mouth and nose when dusting books, shelves, etc.

If you were to go a mile out on the lake, and take a sample of the air and count the dust particles which

it contains, as can readily be done by apparatus provided for the purpose, you would find much less dust than we find in the air of the city; and if you were to repeat the experiment, having gone over the lake four or five miles, you would find the atmosphere practically free from dust. The truth is that the dust particles do not remain suspended in the air, but drop into the water of the lake. The air on a mountain top is likewise free from floating dust, and, therefore, free from germs. These facts constitute one reason why mountain air and ocean voyages are prescribed for persons in ill health.

V. House odors. Foul air and house odors are a definite class of wastes to be rid of in the home. The discussion of methods of ventilation, by which the air which has become foul, is removed, and its place supplied by fresh air, is a subject which must be considered by itself. Not many years ago sanitarians were talking about the window in a room. Within a year or two past we have come to feel that a room with two windows is much more desirable than a room with only one. The opportunity of securing air circulation into and out of a room with two windows, even with the door closed, is well worth keeping in mind. A patient having a prospect of a long illness should, if possible, be removed from a room with one window to a room with two.

Let us note that the air can be changed in a room with a single window if that window is so constructed as to be opened both at the top and at the bottom at the same time. The arrangement of shades often prevents the

opening of the window at the top. We must arrange the shades so that they can be moved down from the top of the window, and allow opportunity for the warmer air near the ceiling of the room to pass out-of-doors, and to be replaced by air coming in at the bottom of the window.

Odors due to cooking food are not really harmful, but cause extreme annoyance to the sick and in extreme cases, nausea. These should be avoided by closing off the patient's room from the kitchen. Opening of the windows when the cooking of strongly flavored foods is being carried on will lessen the chances for cooking odors in the patient's room.

There are certain bodily emanations, which occur and produce odors in clothing, beds and bedding, hence the proper storage of soiled clothing awaiting the laundry should be considered in every home. Grandmother's method of storing soiled clothing in a willow hamper is much better than putting it into a closed drawer or box in which there is no circulation of air. The nurse should not fail to remove these from the sick room daily.

One other odor sometimes met with should be referred to, that of illuminating gas. The insidious effects of such a poison are much more serious than commonly appreciated. Especially is this true of the sick. Gas leaks should be reported promptly to the Gas Company, which is always anxious to have such leaks repaired immediately.

VI. Vermin. This class of things to be rid of includes bedbugs, roaches, fleas, and rats. It is no reproach to the careful City housewife that an occasional bed-

bug is found in her home. The reproach attaches if it finds opportunity for lodgment and housing. Anyone is liable to encounter vermin of this kind in crowded street cars, ill kept stores, and other public places.

The simplest way to drive out bedbugs is to brush the bedstead, springs, and mattress with a feather dipped in kerosene. They can also be driven out with real hellebore or with corrosive sublimate.

Roaches are in the same class as bedbugs, and no house can be considered clean or healthful if infected with them. When they are cleaned out and powdered borax sprinkled about in shelves and drawers, there is no difficulty in keeping rid of them.

It sometimes happens in the hot dry weather of summer when a house is closed for a vacation period, that fleas become very prevalent. It is only necessary to take up the carpets and rugs, clean the floors carefully and sprinkle them with eucalyptus oil, and they will not return.

The larger vermin, rats, are a numerous and destructive pest. There is no doubt that the rat population of all cities is equal to the human one, (in Chicago this would be about two million, six hundred thousand) and that each of these rats costs us at least a dollar a year. Some recent estimates have counted the expense of keeping rats much greater than a dollar per year. At all events, we may safely say that the people of Chicago spend from two and a half to four million dollars a year to maintain the rat pest. It is not worth the money. We can lessen

the number greatly by getting rid of wooden floors in fuel sheds and stables, and in taking care that they do not have garbage for food. The old fuel bin of wood, and the grain box of wood, should be entirely replaced with metal receptacles, and cement floors should be laid in every place which now affords a rat runway.

There is a real danger to health from the harboring of rats. While there is no probability of a serious outbreak in Chicago, it would not be at all strange if in the next few years as more and more ocean going vessels come from Eastern ports to our docks, plague infected rats are brought from the Orient to Chicago. If one of these rats, through the infected fleas which it harbors communicates the infection to other rats, it may cost a great deal of money to protect ourselves from the human plague.

II. Things we ought to bring in. The most important of these are,

1. Light. There can be no health without light. Although attempt is sometimes made to prove that electric light is healthful, do not be deceived by any specious arguments into the belief that normal health and development is possible to those who live and work by electric light. Sunlight, and even the rays of the sun, must be brought into our homes as much as possible, if we are to have good red blood. Dark rooms are unhealthy and usually ill-aired and unclean. Sunlight serves to kill disease germs.

II. Fresh and Pure Air. Perhaps the best test of the purity of the air of the sick room is the simple one

of walking around the block and noticing whether the air in the room seems stale when you come in again. If it does, try to get more windows and doors open. Very few people yet realize the necessity of thorough change of air in the house. It is an interesting observation to walk about your neighborhood in the early morning, and see how large a proportion of bedroom windows have been open through the night. You will find a good many in the neighborhood have been opened only a very slight amount, if at all. Pure air increases bodily vigor and strength, and makes one feel that life is worth living. It is absolutely essential for the sick.

III. The things we ought to keep out. These may be divided into four classes, viz.

1. Flies. There is abundant evidence that flies spread disease. The nurse should regard them as carriers of disease germs and insist that the patient's room be thoroughly screened against them.

A screening law is in effect in Chicago which requires the door and windows of every dwelling to be screened to prevent the entrance of flies, and which also requires that stable doors and windows be screened.

2. Mosquitoes. Very much the same argument applies to mosquitoes as to flies. The breeding of mosquitoes must be prevented, and they must be kept out of the home.

3. Street dirt should be kept out of the sick room in every possible manner.

4. Dampness. One of the things which we

should keep out of the house is dampness. The uncemented earth cellar floor, or the cellar wall, wet by surface water, or the upper story of the house kept damp by a leak in the roof, all impose factors of discomfort and danger, and should be given immediate attention as affecting the sanitation of the home, and the well being of both well and sick.

LESSON 18.

PLUMBING AND THE HOUSEWIFE.

A contemporary writer in a book entitled "The Care of the House", truthfully says, referring to plumbing, "The greatest comfort and convenience of modern dwellings is the source of some of the housekeeper's worst anxieties". This is true because the housekeeper has not often taken the trouble to become familiar with the plumbing system in her home. She has considered it a maze of pipes which she could not understand and, therefore, has not often tried to comprehend it. It is entirely practicable for the nurse to become so familiar with the purpose of every pipe and bend in the plumbing system as to fully understand its purpose, and whether it is operating properly or not. Such knowledge would remove many of the anxieties which frequently accompany cases of sickness.

What is the danger from bad plumbing? We have done away with the old time notion that defective plumbing caused great danger through the knowledge that contagion is communicated by contact with persons rather than by contact with things.

The chance of direct bacterial infection, through the air, of drains and sewers is so slight as to be practically negligible. The breathing of sewer air, like the breathing of all bad air, causes a distinct weakening of resistance to disease. This is a sufficient reason for knowing that the plumbing pipes and joints in our houses are tight and the traps safe.

It is a miracle of civilization to be able, by turning a handle, to promptly secure pure water, one of the important essentials of life, and having fouled it by use for washing, to see this waste which has now become a source of offense and danger, removed to some distant place and disposed of without further care on our part.

It was not always thus in cities. The streets of cities once were veritable cess pools, and in some places this is still so. The streets of Marseilles are said by some of our soldiers to be indescribably filthy, inhabited after nightfall by thousands of rats, which seem to be the only scavengers at work.

Water Supply.

The most wonderful and ancient works wrought by the hand of man are those of water supplies. Such works have existed since the time of ancient Rome to the present in the form of reservoirs, aqueducts and distribution systems, employed in bringing the water supply from various distant sources to the city homes.

Chicago is blessed with a near at hand water supply of good quality in Lake Michigan, but enormous sums of money must still be spent in building and operating cribs, tunnels, pumps and mains, to bring this water to our houses.

Sewerage

Some cities in the old world depend still upon the dry system of disposing of human waste, although most civilized cities have adopted the water carriage system by which this waste is washed away through the use of large quantities

of water. This method, of course, greatly increases the volume, but affords great convenience in the use of pipes through which the liquid sewage may flow away.

The concealed systems of sewers and sewer mains which rapidly carry away the foul waste from our houses to some distant point for treatment or disposal, are not often thought of. Some are of large size. The net work beneath our Chicago streets includes many sewers six feet in diameter and upwards.

Our system of sewage disposal consists in dumping it into a large volume of flowing water in the drainage channel. This diluted sewage flows down the drainage channel past the dam at Lockport, into the Illinois River, and finally into the Mississippi. It is said to become harmless at a point some twenty miles outside of Chicago.

We will next consider the various parts of a house plumbing system:

1. The Drain.

That portion of the plumbing system which lies horizontally below the cellar floor constitutes the drain. To this are connected the various vertical waste pipes and the outlet from the catch basin.

As to material, the drain may be of cast iron or of tiled pipe, the former being the much more desirable material. In few large cities is tiled pipe allowed to be used under houses as at present in Chicago. The objections to tiled pipe are well known. It is brittle, has many joints, is not straight, cannot easily be repaired when

(Plumbing)

damaged and, worst of all, is rarely tight at the joints. In addition to this it is usually of too large size, and, therefore, allows solid matters to settle out instead of removing them promptly. Cast iron, the more reliable material, has a lesser number of joints which are made of lead, instead of cement, and are, therefore, more flexible. It can be cut into for cleaning and for repairs, and when closed again is as safe as previously.

The system of drainage in use in Chicago prescribes that the grease from kitchen sinks shall not be discharged directly into the drains but into an appliance called a catch basin, where attention may be given to it before it flows out into the drains.

Every properly built house has vertical pipes outside of the house which bring the water from the roofs into the drains. These pipes, usually called "rain leaders", perform a very necessary function but have little relation to the rest of the drainage system. They should always be in good repair, properly connected to the catch basin or drain, and should not become obstructed with the gravel and sand which often washes down from the roof.

12. Vertical Pipes.

The vertical pipes within the house may be classified as of four kinds:

1. Water supply pipes.
2. Soil pipes.
3. Waste pipes.
4. Ventilation pipes.

1. The water supply pipes are of small size, usually not much more than an inch in outside diameter, and are arranged to reach all the fixtures in the house. The principal supply pipe is connected with the water main in the street, brought into the house through the cellar wall, where it is provided with a stopcock so that the water may be shut off at any time, and then with decreasing sizes extends by various branches to the separate plumbing fixtures. The water supply system includes, also, the hot water boiler, to which the heater is attached, and from which the pipes extend to the various fixtures supplied with hot water.

2. Soil pipes - In the old days most of the plumbing pipes were of lead. From the Latin name of plumbum, meaning lead, were derived the terms plumber, meaning a worker in lead, and plumbing, a system of lead pipes. At the present time very little lead is used in home plumbing. In some cases, however, short connections of lead soil pipe and occasionally of lead waste pipe, are used. The soil pipe is invariably distinguished by its size, being the largest pipe in the system. It is necessarily of considerable size because it always carries the discharges from the water closets, a fixture having a large outlet in order to avoid obstruction. It sometimes happens that the small fixtures in a bathroom, such as the lavatory and bathtub, also discharge through the soil or water closet pipe, but this is by no means invariably the case.

3. Waste pipes - The waste pipes discharge the liquid sewage from single and isolated small fixtures, such as

sinks, lavatories, etc., and are only about $1\frac{1}{2}$ or 2 inches in size, not being large enough to carry safely the materials discharged through the water closet. These pipes are usually of wrought iron, a material more suitable for small pipes than large.

4. Ventilation pipes - Drainage systems, like human beings, require fresh air if they are to remain clean and sweet. Before this was well understood, and especially while lead pipe was largely used for plumbing, constant accumulations of the foul gases due to decomposition in pipes and drains, used often to accomplish corrosion in such pipes. Examples of corrosion have been seen which appeared incredible. At the present day these evils are overcome by providing a circulation of fresh air through the soil and waste pipes. This current of air enters from the street sewer, passes through the drain toward the house, upward through the soil and waste pipes, and is discharged above the roofs of the houses at the upper ends of these pipes. The air current is practically constant in its flow, being momentarily disturbed only when one of the plumbing fixtures is discharged and the sewage temporarily displaces some of the air in the pipes. As soon as the liquid waste has passed out the current again begins its upward motion. These portions of the pipes which extend from the fixtures to the roof level are called ventilation pipes. Air only, and never waste water, flows through them. Ventilation pipes also, are sometimes provided in two or three story buildings where one fixture is placed above the other, and

may be known by their size which is less than that of the soil or waste pipe near them.

Traps.

That part of the plumbing known as a trap is sometimes a subject of curiosity and mystification. A trap, perhaps the most convenient example of which you will find under your kitchen sink, is merely a bend in the waste pipe so formed that it will collect waste water and thus prevent the drain air from coming out through the fixture. Sometimes bad plumbing is so constructed by those who do not understand the function of a trap that drain air constantly escapes through a sink or wash basin. A trap is not always as simple in form as that shown under your sink, but may have a complicated form which, however, can do no more than prevent the drain air from flowing out past the fixture. The water closet trap is of porcelain and is made when the fixture is molded from the clay, instead of being attached to the fixture afterwards.

If from any cause the water in the trap is absent, drain air will flow out into the room. If the house is vacant for a long time the water may evaporate from the trap. If a fixture is not frequently used this may also happen. Therefore, if a lavatory or sink does not need to be used care should be taken to see that once a week water is poured into it to replace that which has evaporated from the trap, or the fixture should be temporarily removed by a plumber, and the opening closed in a safe manner. There are other ways in which the water may leave the trap, but these rarely

occur in a well designed system of house plumbing.

Plumbing Fixtures.

Not so many years ago plumbing fixtures were frequently found made of wood. Most of you have seen wooden sinks and, perhaps, wash trays, which by reason of the absorptive character of the wood, were constantly saturated and offensive. After a time slate and marble fixtures were common. Then cast iron sinks without coating, and with surfaces rough, like a kitchen pot, came into use. These were later coated with zinc to give the so-called galvanized surface which presented a slight improvement. In the last few years we have had few small plumbing fixtures which were not made of iron coated with a glistening white coating, called enamel. This material is not china or porcelain, as is the water closet, but is of the nature of glass, much softer than a real porcelain.

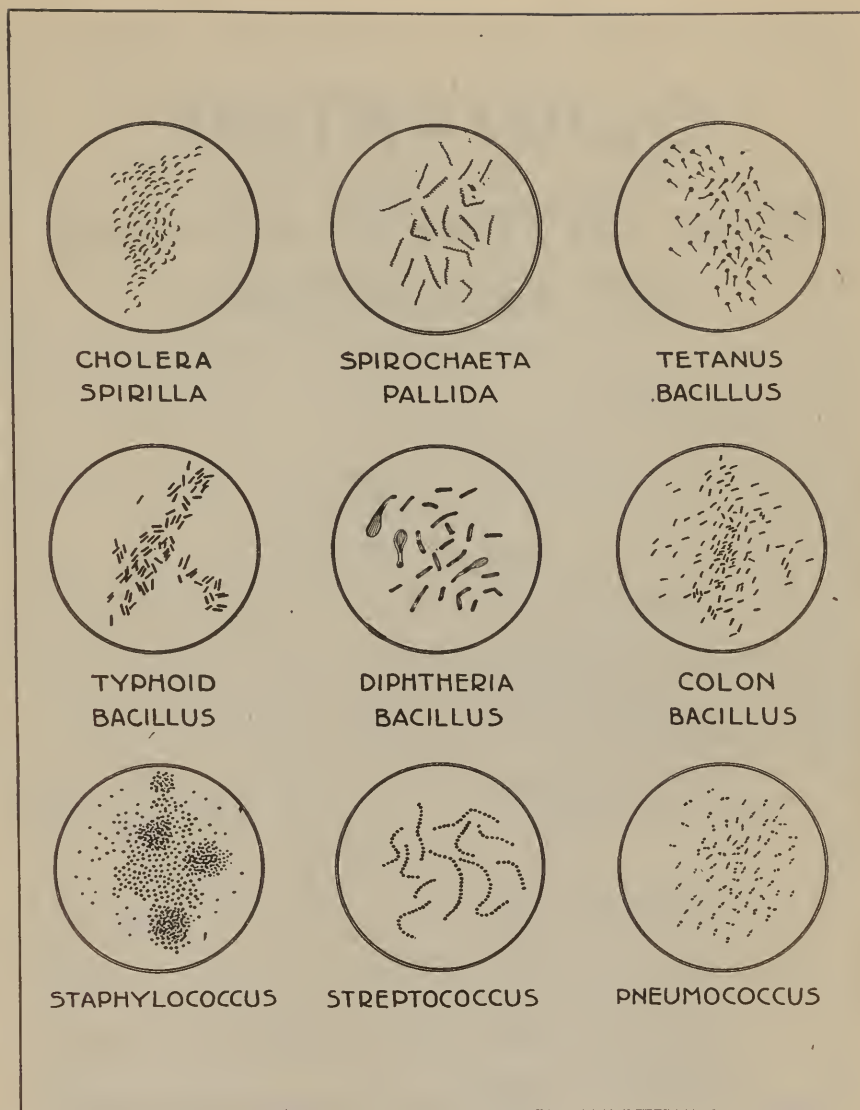
The process of coating the iron fixtures with enamel is an interesting one. A bathtub or sink is placed in a furnace where it becomes white hot and is then brought out from the furnace in that condition. The workman applies to the hot surface the enameled material in a powdered form, sprinkling it on from a perforated receptacle like a large salt-cellar. This enameling material consists of two parts, one is powdered glass, perhaps broken bottles ground fine, and the other part contains the sand, salt and soda, of which new glass is composed. When applied to the hot iron surface these materials are melted and soon begin to flow, so that in order to insure proper covering the sink or other fixture must be turned about in its hangings. When

the coating has flowed over the surface, the fixture is again introduced into the furnace, reheated, and a second coating applied in the same manner. Three or four layers of the enamel are put on in this way.

This material, while admirably suited in most particulars for a plumbing fixture, has one grave defect, it is soft, and, therefore, becomes easily worn or scratched. It is most necessary that the housewife understand this. Care should be taken to use only soap and water in cleaning the plumbing fixtures, so that the surfaces may be kept in their new condition for a long time. If abrasive materials are used, or if pans and kettles are allowed to scratch the surface of the fixture, it can never recover its old-time polish, and can never be as easily cleaned as formerly.

ABBREVIATED OUTLINE OF MICROSCOPIC PLANT FORMS, INCLUDING THE MORE IMPORTANT DISEASE-PRODUCING ORGANISMS.
(See illustration. Study both carefully.)

Bacteria (single celled organisms multiplying by fission)	{	Saprophytic, living on dead matter	{	Parasitic, living on animal matter	Cocci	{	Staphylococcus	Aureus, causes abscesses, blood poisoning, etc.																		
							Streptococcus, causes abscesses, heart disease, sore throat, etc.	Albus, causes abscesses, blood poisoning, etc.	Citreus, causes abscesses, blood poisoning, etc.																	
							Diplococci	Pneumococcus, causes pneumonia, colds, abscesses, heart disease, etc.	Gonococcus, causes gonorrhea.	Meningococcus, causes meningitis.																
								Mic. melitensis, causes Malta fever.	Mic. catarrhalis, causes colds, sore throat.																	
								Typhoid bacillus, causes typhoid fever.																		
Bacilli	{	Aerobic (growing in air)	{	Dysentery bacillus, causes dysentery, winter cholera.	B. enteritidis, causes diarrhea.	Colon bacillus, causes cystitis.	Diphtheria bacillus, causes diphtheria.	Tubercle bacillus, causes tuberculosis.	Leprosy bacillus, causes leprosy.	Anthrax bacillus, causes malignant pustule.	Plague bacillus, causes Bubonic plague.	Glanders bacillus, causes glanders.	B. pyocyaneus, causes wound abscesses.	B. tetani, causes lockjaw.	B. Chauvei, causes black leg (cattle).	B. edematis, causes malignant edema.	B. Welchii, causes wound infections (gas bacillus).	B. botulinus, causes food poisoning.	Spirilla	Cholera spirillum, causes Asiatic cholera.	Spirochaeta pallida, causes syphilis.	Spirochaeta Obermayeri, causes relapsing fever.				



TYPICAL BACTERIA.

FIGURE 21-A.

QUARANTINE

A STUDY OF THE USE OF FOUR DIFFERENT METHODS OF ISOLATION.

METHODS

No 1 Hospitalization.

No 2 Isolated with Trained Nurse.

No 3 Isolated with Untrained but Instructed Attendant.

No 4 Isolated but with no Special Attendant.

METHOD				SCARLET FEVER	
1	CASES STUDIED	350			
	SUSCEPTIBLE CONTACTS	593			
	CONTACTS DEVELOPED	0		0%	
2	CASES STUDIED	290			
	SUSCEPTIBLE CONTACTS	490			
	CONTACTS DEVELOPED	0		0%	
3	CASES STUDIED	302			
	SUSCEPTIBLE CONTACTS	671			
	CONTACTS DEVELOPED	2		.29%	
4	CASES STUDIED	1719			
	SUSCEPTIBLE CONTACTS	2440			
	CONTACTS DEVELOPED	97		3.98%	

				DIPHTHERIA	
1	CASES STUDIED	772			
	CONTACTS	1626			
	CONTACTS DEVELOPED	0		0%	
2	CASES STUDIED	505			
	CONTACTS	819			
	CONTACTS DEVELOPED	0		0%	
3	CASES STUDIED	495			
	CONTACTS	1252			
	CONTACTS DEVELOPED	5		.4%	
4	CASES STUDIED	4043			
	CONTACTS	8914			
	CONTACTS DEVELOPED	136		1.54%	

DEPARTMENT OF HEALTH, CHICAGO.
JOHN DILL ROBERTSON, M.D.
CHIEF, DIVISION

FIGURE 21-B

CONTAGIOUS DISEASES.

LESSON 17.

BACTERIOLOGY.

Living things, whether vegetable or animal, consist of cells. If you were to go into the woods today, and with a stick stir a muddy pond, take one drop of the water, put it on a glass slide and place it under a microscope, you would be able to see, through the lens of this "scope", living, moving, one-cell animalcules. The suffix "ule" means diminutive or small. Among these small one-cell animals you would find one that at one instant was round and in another instant was changed to oblong. In fact in a moment's time it would assume many shapes. Perhaps you would be able to see through this microscope that this one-cell animal, the name of which is ameba, was surrounding a bit of substance which it absorbed for food. In other words, the ameba is busy foraging for nourishment.

This one-cell animal has a life history just as distinct as yours and mine except in the matter of time. It was born, it lives, it reproduces its kind, just the same as animals do. Animals differ from ameba only in the fact that they are collections of cells. The number of cells in a human being is innumerable; a square inch of human skin contains millions of them. Plants are likewise made up of a collection of cells.

These cells are fastened together with a cement substance which lies between the cells holding one to another.

and this substance is called intercellular cement substance. In other words, living plants and animals are not unlike a brick house, the bricks representing the cells and the mortar between them the intercellular cement. It requires a microscope to see the cells in living things, whereas we can see the individual bricks in a house provided we are close enough to it. In order to see the cells, whether in living tissue or in a house, you must bring them within the range of your vision. Therefore the microscope is an essential instrument for the study of all those things too small for the naked eye to see. There is no difference between cell architecture and brick architecture, except in size.

One-cell animals are called animalcules. We have one-cell vegetables which have various names. For example, we have certain forms of fungi, the definition for which you can now readily make yourself. They are defined as unicellular vegetable micro-organisms.

Fungi.

There are three classes of these organisms which every intelligent person should know. First are those fungi which multiply by dividing directly in two, just as you would break a stick in two. These are called fission fungi. Another group multiplies by throwing off small round bodies from the main round body, as buds are thrown from a twig of a tree. These are known as budding fungi, and we call them yeast cells. A third form of fungi is multiplied by splitting off a part of itself in much the same manner as the end of a hair will split. In other words, they split lengthwise and are called moulds.

The first class, fission fungi, are likewise called "bacteria, the singular for which is bacterium.

While yeasts and moulds are very important in the art of making bread and canning fruit, from a purely health point of view an exact knowledge of them is not as essential as a knowledge of bacteria.

You have been taught that the suffix "ology" means a discourse or treatise on that to which it is connected. For example, mineralogy is a discourse on minerals; similarly bacteriology is a discourse on bacteria. The word bacterium is derived from the Greek word, meaning "little stick".

The careful mother and father never fail to warn the child of the dangers of the live electric current in the wires stretched along our streets, or the dangers of being bitten by a mad dog. Human life will be much safer when the knowledge of bacteria - at least the dangerous ones - is common to all of our people. It is essential that every nurse be thoroughly acquainted with them and the manner in which they perform.

Bacteria.

Bacteria are divided into two distinct classes, the first being called parasitic bacteria, for the reason that they live upon living tissues; in other words they attack us while we are living; they are in our bodies, and give off poisons from their small bodies. These poisons are called toxins. The second class is called saprophytic bacteria; these live on dead tissues; they cause putrefaction to take place in meat and vegetables; they cause the human body to putrefy after death. It is in this manner

that we are separated into small particles and thus return to the dust from whence we came. It is for this reason that embalming fluid is injected into the body as quickly after death as possible for the purpose of preserving it. The ancient Egyptians were most expert in this art; the evidences in the form of mummies still exist to testify to this fact. So active are the saprophytes in dead tissues, that the greatest amount of knowledge and skill is required to prevent tissue that was once living from putrefying.

Parasitic bacteria are divided (as will be noted by reading the preceding bacterial tree and classification of bacteria) into three distinct groups, viz., cocci, which are round like berries, the name coccus being the Latin name for berry; Bacilli, which are rod-shaped; and spirilla, being spiral in shape like the letter "S." Typical examples of these types are shown in the illustrations of bacteria preceding this lesson.

Cocci are again divided into classes, depending upon their groupings. The coccus that remains alone as one berry is known as the micrococcus; those in which there are two apparently fastened together, as the two sides of a coffee bean, are called diplococci; those that come in fours are called tetrads; those that come in bunches like a bunch of grapes are called staphylococci, the word "staphylo" meaning bunch of grapes; those that grow in chains are called streptococci.

You will have noticed that the words coccus and cocci have been used; the former is the singular and the latter the plural.

Bacilli.

Bacilli are likewise classified but in a different manner. All bacilli are rod-shaped, and the name is given them after the disease which they produce, and frequently the name of the discoverer thereof. Therefore the bacillus of typhoid fever is called bacillus typhosus, and frequently called Eberth's bacillus, named after Dr. Eberth, its discoverer.

It will be noted that the bacterial tree previously referred to shows various cocci, bacilli and spirilla, their names in most instances telling the names of the disease they produce.

A number of these diseases, such as typhoid fever, diphtheria, tuberculosis, etc., are discussed in special articles in these notes. The nurse is advised to thoroughly familiarize herself with these details.

In certain other diseases, such as measles, scarlet fever, influenza, etc., the bacteria producing them have not yet been definitely isolated.

Cocci.

The cocci group is more definitely associated with surgical diseases than the other groups. Staphylococci produce local infections and inflammations. The staphylococcus that produces yellow pus, such as that found in boils, has been called staphylococcus pyogenes aureus. The word "pyogenes" comes from two Latin words, "pyo" meaning pus, and "genes" meaning producing. The word "aureus" comes from the Latin word aurum, or gold. Thus this pus is readily recognized because of its golden yellow color.

If the pus is the color of ripe citrous fruit, it is called *staphylococcus pyogenes citreus*. If the pus is white, it is called *staphylococcus pyogenes albus*, the word "albus" meaning white.

Streptococci cause spreading inflammation. These are found in erysipelas, where the infection spreads rapidly from the point of infection. These are very virulent, and when they gain entrance to the blood stream frequently multiply so rapidly that they have been known to produce death in forty-eight hours.

Erysipelas is always a dangerous infection and especially so to women in childbirth. No nurse who has been caring for a case of erysipelas should think of nursing a case of confinement or be about a case of confinement until she has been thoroughly disinfected and has allowed several days to elapse after nursing such a case. The same is true of surgical cases.

Not all streptococci produce erysipelas. There are several distinct types of them, but they are all virulent.



FIGURE 22.

MURDER!!!

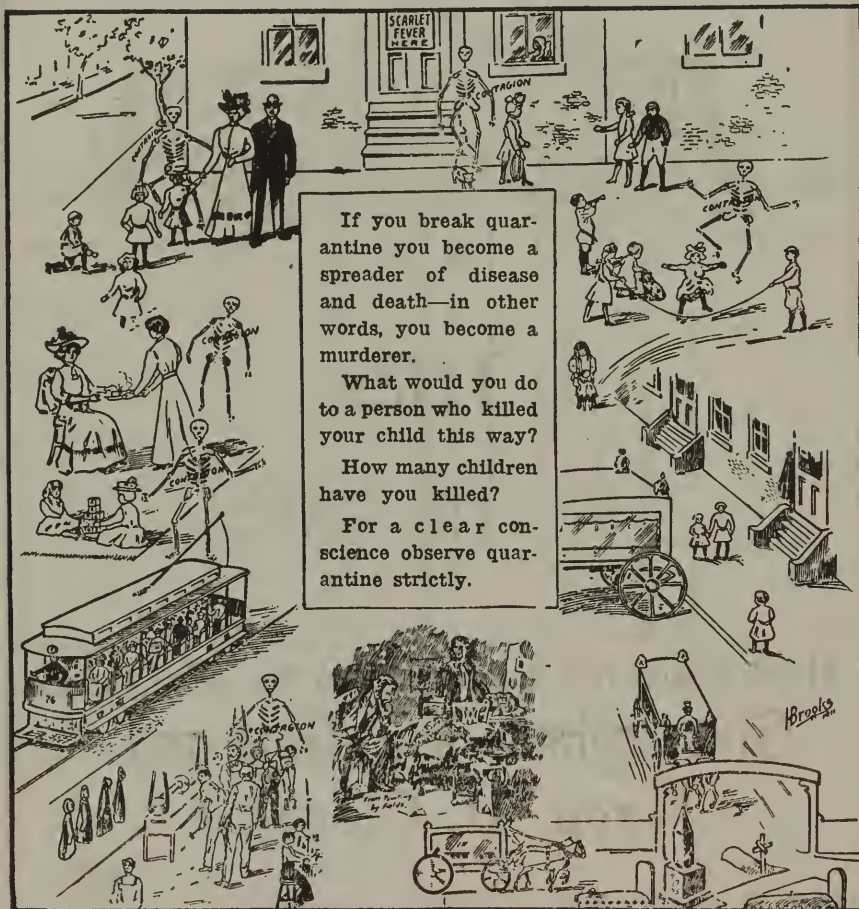


FIGURE 23.

LESSON 18.

CAUSES, SYMPTOMS AND PREVENTION OF CONTAGIOUS DISEASES.

Contagious diseases are largely preventable, - some of them entirely so. It is the law of nature that every living thing has its enemy, but at the same time, all have a defense against such enemies. Self-defense is a law of nature. Some creatures have a good defense while others defend themselves feebly.

The human race kills every living thing. They even kill each other. In turn the human race has many enemies. Through his superior brain man has mastered the visible animal kingdom. He no longer hides in caves, sleeps in trees or builds huts over the lakes to secure safety from savage animals. He can avoid the things he sees but he is not so successful against the millions of invisible enemies, the micro-organisms or germs. He is learning to defend himself against these deadly agents and is in a fair way to succeed.

It is only about 45 years since we even suspected that the greatest destroyers of human life were the invisible germs, only to be seen by aid of a microscope.

These facts are mentioned because it will be your privilege as nurses to save life by preventing contagion - invisible contagion - from passing from one person to another, for that is the way contagion is spread and kept alive. You should know the cause of disease, how it is conveyed and how to avoid it.

Colds.

Colds in the head are manifested by inflammation of the mucous membrane or covering of throat, air passages, and cough. The more we know the more we suspect colds are caused by germs, but certain it is that overheated air, lacking the normal amount of moisture, causes irritation and congestion of the lining of the air passages and brings about directly or indirectly what we call a cold.

It is certain that pure cold air does not cause colds but tends to prevent such a condition. Severe exposure to cold and wet seems to precipitate a cold when the predisposing conditions are present. That is when the mucous membrane is in an unhealthy condition from breathing dried, furnace-heated air. No doubt various kinds of germs contribute to what passes under the name of colds. Do not allow anyone with a cold to cough or sneeze in your face. Do not cough or sneeze in other people's faces. Everybody at all times should do this coughing and sneezing into a handkerchief. Handkerchiefs should be carried where they can be gotten hold of quickly. The defense against colds is to breathe normal air and dress so as to protect yourself against wet and cold. Avoid becoming chilled and dodge the cougher and sneezer. The living rooms should not be heated above 68 and the indoor clothing should not be too heavy. Heavy clothing should be put on when going out in cold weather. Dress so as to feel as comfortable outdoors as in the house.

Bronchitis.

Bronchitis is an inflammation of the lining mem-

brane of the air passages, varying somewhat according to the location of the inflammation, in the large air tubes or smaller air tubes. There is present a dry cough, often hoarseness, usually fever following a chill or chilly feeling, varying in degree of severity. It may go on to a chronic state with expectoration.

Cause: Bronchitis is a common symptom of ordinary "colds", and may be caused by the various germs of the infectious diseases - such as measles, whooping cough and influenza; by breathing irritating substances such as dust, smoke, baked furnace air and irritants of various kinds. Some medicines are capable of producing bronchitis, as iodide of potassium.

How Conveyed: From person to person by coughing, sneezing and spitting or by inhaling irritants of various kinds and by kissing.

How to Avoid: Allow no one to cough or sneeze in your presence without a cloth or handkerchief held before the mouth; protect others from yourself in the same way. Breathe normal air, free from dust and smoke.

Infantile Paralysis.

Infantile paralysis is an inflammation of the gray matter of the spinal cord with destruction of nerve cells. There is mild fever, muscular pain, twitching and paralysis of groups of muscles. It is usually a child's disease, though adults are sometimes victims. Slight fever and paralysis of one or more limbs are the principal symptoms.

Cause: Undoubtedly a germ disease, though the

germ is not definitely known. The germ is located in the nose and throat.

How Conveyed: From person to person by coughing, sneezing and spitting. May be carried on things while the infectious material is fresh, but more frequently by hand to mouth infection and by kissing.

How to Avoid: Isolate the patient in a room screened against flies. Allow no one in the room but the doctor and nurse. Disinfect everything taken from the room. For protection, the nurse should wear a mask while caring for the patient.

Epidemic Cerebrospinal Meningitis: (Spotted Fever);

Children are most susceptible to this disease. It is essentially an inflammation of the covering of the brain and spinal cord. The onset occurs a short time after exposure, three to eleven days. Usually fever is present following a chill. There is headache, muscular soreness, tenderness over body, retracted head with stiff neck, vomiting, dullness and stupor, sometimes convulsion and paralysis. An eruption appears in some cases.

Cause: Micro-organism (*Diplococcus intracellularis meningitidis*.) This probably enters the throat, nose and tonsils.

How Conveyed: By coughing, sneezing and spitting, by hand to mouth infection, by kissing, and may be carried on things while fresh.

How to Avoid: Isolate the patient in a screened room. Allow no visitors. Disinfect everything before removing it from the room. Destroy all discharges from the

mouth, nose and bowels. Have patient use cloth or handkerchief when coughing or sneezing. The nurse should wear a mask.

Pneumonia - Lung Fever:

In 1918 this disease killed 6,983 persons in Chicago. For ten years the average yearly deaths from pneumonia have been 4,849. In the last ten years the epidemic diseases, scarlet fever, diphtheria, cerebrospinal fever, measles, smallpox, whooping cough, infantile paralysis and typhoid fever have killed 26,672 persons. In the same time pneumonia killed 48,492. About one-eighth of the deaths from all causes is charged to pneumonia. This disease is characterized by an acute inflammation of the lungs. The onset is by a chill followed by fever, rapid breathing and cough. The sputum is rusty, and there is usually pain in the lung, felt when breathing.

Cause: A germ (*Diplococcus pneumoniae*) found in the air passages.

How Conveyed: From person to person by coughing, sneezing and spitting; from hand to mouth infection and by kissing; may also be conveyed on articles while the infection is fresh.

How to Avoid: Isolate the patient in a screened room. Destroy all discharges from the patient or put them into a disinfecting solution. Have the patient use cloths or handkerchief to catch discharges from mouth and nose. Such cloths are then disinfected or burned. The nurse should wear a mask while nursing the patient and after any attention to the patient she should wash her hands. No visitors should be allowed until the quarantine is lifted.

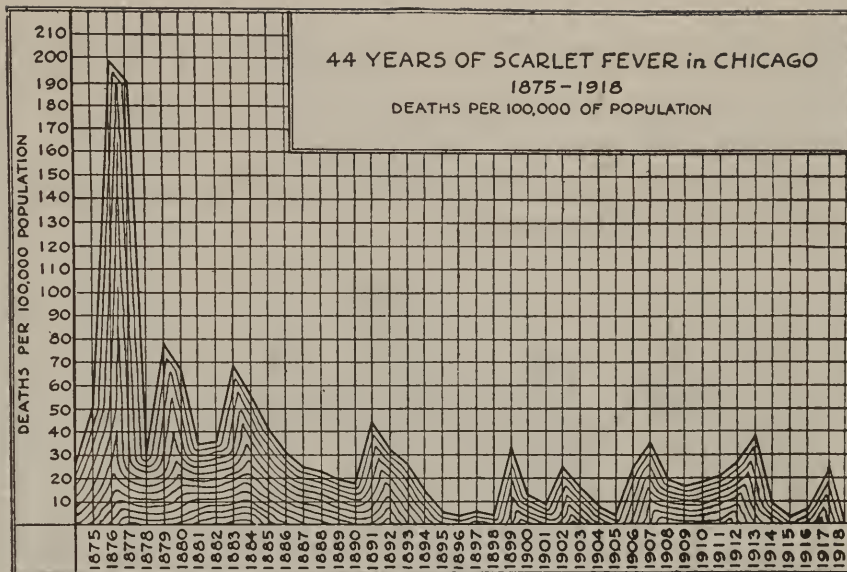


FIGURE 24.

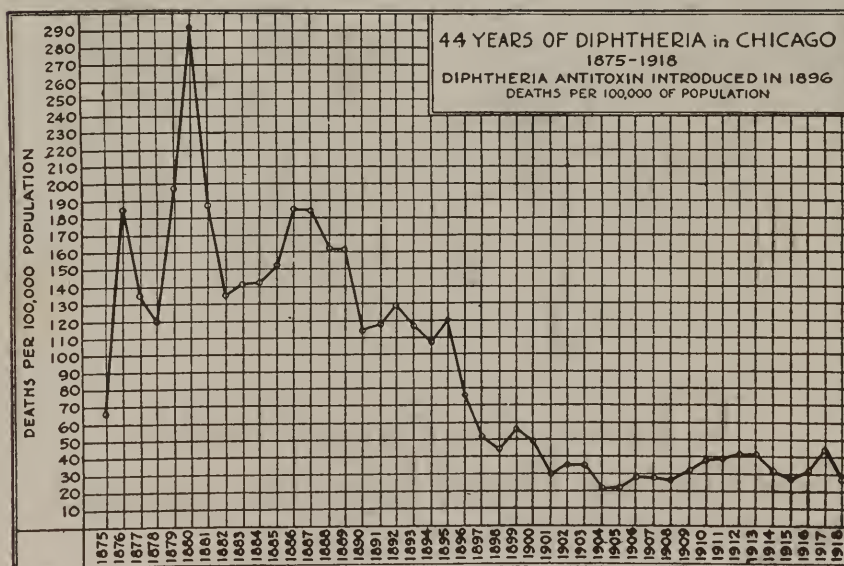


FIGURE 25.

THE PREVENTABLE PERILS SURROUNDING THE CHILD

One baby out of every 7½ dies before reaching the age of two years.

About 80 percent of these deaths are from preventable diseases.



To break this Ring of Trouble
More Men and More Money are required.

Department of Health - Chicago. Educational Series No. 99.

FIGURE 26.

LESSON 19.

CONTAGIOUS DISEASES - Continued.Septic Sore Throat (Streptococcus Sore Throat.)

This is epidemic and contagious. The symptoms are sore throat, redness and swelling, but no membrane; glands in neck swollen and sometimes suppurate; extreme prostration; suppuration in middle ear, abscesses around or about the tonsils. Various fatal complications may result, such as heart diseases, inflammation of the joints, etc.

Cause: A germ - streptococcus pyogenes. This germ causes erysipelas when introduced into the skin.

How Conveyed: Septic sore throat is conveyed by milk, or from person to person by coughing, sneezing and spitting; hand to mouth infection, or by kissing. Milch cows have a disease of the udder called garget. The germ causing septic sore throat is found in the milk from a cow having this disease. Most epidemics of septic sore throat have been traced to milk infection. It can be conveyed by articles or things if the same are freshly contaminated.

How to Prevent Infection: Pasteurize the milk. Isolate the patient in a room screened against flies. Allow no one to visit the room except the doctor and nurse. Disinfect and destroy all discharges from the patient's mouth and nose. Require the patient to use a cloth or handkerchief when coughing or sneezing. Disinfect everything in the room before removing the same. The nurse should wash her hands after every attention to the patient. It is safer

for the nurse to wear a mask.

Tonsillitis (Quinsy).

Tonsillitis is an acute inflammation of tonsils. If suppuration or abscess formation occurs it is called Quinsy. Often small white patches on the tonsils are present. The germs may be absorbed, causing fatal diseases of the kidneys and acute inflammatory rheumatism.

Cause: The germs causing tonsillitis are the pneumococcus, staphylococcus and streptococcus.

How Conveyed: The disease is conveyed by coughing, sneezing and spitting; hand to mouth infection and kissing. It may also be conveyed by milk.

How to Avoid: Not so contagious as some other diseases, but the patient should be isolated, discharges from nose and mouth disinfected, and destroyed. The nurse should keep in mind the dangers to herself and others present from the patient coughing and sneezing and from hand to mouth infection and kissing.

Diphtheria.

A contagious and epidemic disease characterized by membranous inflammation of the throat and severe general intoxication. Killed 723 persons in Chicago in 1918.

Cause: Germ - Klebs-Loeffler bacillus.

How Conveyed: By coughing, sneezing, spitting; hand to mouth infection and kissing. Not often from milk. It can be conveyed on things if freshly contaminated. A common source of infection is from carriers, i.e., persons with diphtheria germs in the throat, though they are well.

About 50 percent. of children will not take the disease when exposed; 80 to 90 percent. of grown people are immune and will not contract diphtheria when exposed.

How to Avoid: Isolate the patient in a hospital or room at home; disinfect and destroy all discharges from nose and mouth; no visitors allowed. An immunizing dose of antitoxin should be given to all persons in contact with the disease unless they have previously been vaccinated with diphtheria toxin-antitoxin. Nurses should be vaccinated against diphtheria. If not thus protected, they should be immunized with antitoxin and wear a mask. Carriers of diphtheria germs should be quarantined until free from germs. The nurse should always wash her hands after every attention to the patient.

Scarlet Fever (Scarlatina + Duke's Disease).

An acute contagious and epidemic disease. Three to seven days after exposure, the disease comes on with fever, vomiting, sore throat, often a membrane is present, coated tongue, red about the margin, and in 48 hours a rash appears over the body. An attack usually gives immunity. It is a disease of degree from so slight an attack as not to put the patient to bed, to the fulminating type that scarcely admits of a recovery.

Cause: Undoubtedly a germ disease, though the germ is not known. The infectious agent is located in the nose and throat.

How Conveyed: From person to person by contact, coughing, sneezing and spitting, hand to mouth infection, by

kissing and in milk; on things if the things are freshly contaminated.

How to Avoid: Isolate the patient in a hospital or room at home. Allow no one but the nurse and doctor in the room. Disinfect and destroy all discharges from nose and throat or discharging ears, or suppurating glands. Isolate the patient for five or more weeks. Pasteurize the milk. It is safer for the nurse to wear a mask while in close attendance upon the patient.

Measles (Morbilli, Rubella).

An acute self-limited contagious, epidemic disease. Highly contagious. Occurs in about seven to ten days after exposure. The disease comes on gradually with chilliness and fever, red and watery eyes, catarrh of the nose and throat. Fever usually drops the second day with a rise on third day, followed by an eruption on the skin the fourth day. Koplik's spots can be seen in mouth as early as the first day. When the rash is well out, the fever may recede a little, but continues rising and the height of the fever is reached about ^{the} sixth or seventh day of the disease and then begins to decline. One attack usually gives immunity, but not always.

Cause: A germ disease undoubtedly, but the germ is not known.

How Conveyed. From person to person, by close contact; by coughing, sneezing, spitting; hand to mouth infection and kissing; not often on things but can be by fresh infection on handkerchief or hands.

How to Prevent: Isolate the patient in a room until the fever has been gone 48 hours. It is a child's disease, but adults will have the disease when exposed to it if they have escaped it in childhood. Destroy contagion as it comes from the patient. Disinfection of room not necessary.

German Measles (Rothella, Rubella, Roseola).

An acute, contagious, epidemic disease, having a mild fever, cough, some sore throat, enlargement of glands in neck and a rash appearing the first day. This disease is often confused with measles and scarlet fever. The disease comes on about 21 days after exposure.

Cause: No doubt a germ but it has not been discovered. One attack usually gives immunity.

How Conveyed: By close association. By coughing, sneezing, spitting in the presence of others. Not often on things.

How to Avoid: Isolate the patient 10 days or two weeks, and all susceptible contacts for three weeks.

Mumps (Parotitis).

Contagious and epidemic. Acute inflammation of the parotid or submaxillary or sublingual glands. Incubative period three weeks. Infection may be absorbed and attack other organs in the body as testicles, ovaries or breast.

Cause: No doubt a germ, but it has not been discovered. One attack usually gives immunity.

How Conveyed: Close association with patient

by coughing, sneezing and spitting. Not often on things.

How to Avoid: Isolate the patient 10 days or two weeks and isolate contacts for three weeks. No general disinfection required.

Whooping Cough (Pertussis).

An acute infectious, epidemic disease, characterized by catarrhal condition of the bronchial tubes; spasmodic cough, accompanied by a whooping sound. One attack gives immunity.

Cause: A germ (Bordet-Gangon) found in the secretions from the air passages and in the mouth discharges.

How Conveyed: By association with a person having whooping cough, through coughing, sneezing and spitting. It is a child's disease but adults may have the disease when exposed to it if they escape it in childhood.

How to Avoid: Isolate the patient for six weeks - or more. Isolate susceptible contacts for two weeks.

Whooping cough and measles each killed more than scarlet fever last year in Chicago. It is a crime to expose children to these diseases as is often done by ignorant mothers. Most deaths from these two baby killers occur in children under two years of age. Death is rare from these diseases after five years of age. Keep children from these diseases as long as possible.

Venereal Diseases.

Chanoroid (Contagious)

An eating sore, usually more than one present. Bubo or swelling of the glands in the groin often results.

The disease is local and comes on one to ten days after contact with a person having the disease.

Cause: A germ.

How Conveyed: By contact. It is contracted almost exclusively by sexual intercourse. It can be contracted by contact with any part of the body if the skin is broken, but it is usually located on the genitals.

How to Avoid: Do not come in contact with person thus infected. In dressing such an ulcer, rubber gloves should be worn. Soiled cloths should be burned.

Syphilis. Contagious and infectious.

The local sore is called a chancre. The sore is usually single and comes on ten to thirty days after contact with a diseased person or something that has been contaminated recently by syphilitic infection. The disease is hereditary. For descriptive purpose we divide the symptoms into three stages:

Primary: The beginning sore.

Secondary: Eruption over body and in mouth and throat, loss of hair, etc.

Tertiary: When the disease attacks bones, internal organs, brain and nerves.

Cause: A germ - *Spirillum Treponema Pallidum*.

How Conveyed: By contact; usually by sexual intercourse; often by kissing, and can be transmitted by recently infected articles, such as instruments, drinking glasses, etc. If a person has a cold sore on the lip or a break in the mucous membrane of the lip when kissed by a person having syphilitic mucous patches in the mouth he will almost certainly

ly contract syphilis. Under similar conditions a pipe, a pencil or a drinking glass that has been in the mouth of a syphilitic person can convey the disease. It is possible to contract the disease from freshly infected cloths or clothing coming in contact with a break in the skin. But if a person never touches a syphilitic person the chances of getting the disease from other sources are very slight, indeed.

How to Avoid: Avoid contact with persons infected with syphilis. Every man and woman before marriage should be examined and furnished a certificate of health from a family physician and from a health officer.

Gonorrhea.

An acute contagious disease characterized by inflammation of the passage to the bladder, discharge of pus, pain and burning sensation in passing urine and sometimes frequent desire to urinate. There are many painful complications. It kills its thousands, but the death certificate seldom shows the real cause of death.

It also occurs as an infection of the eyes of the new-born baby. This is a frequent cause of blindness.

Cause: A germ, the Diplococcus of Neisser. It will attack any mucous membrane such as the eye, mouth, anus or urinary passages. The latter is most often the seat of the disease.

How Conveyed: By contact with a person who has the disease. Impure sexual intercourse is the usual method of transmission. It is conveyed to new-born babies' eyes

in the vaginal discharges of the mother. It can be conveyed on things, as a soiled handkerchief to the eyes, or soiled hands may convey the disease.

How to Avoid: A certificate of health from a physician and from a health officer required before marriage would be the best safeguard. Some persons never recover and become chronic carriers of the infection. Such persons should never marry.

For the good of the human race, no syphilitic should be allowed to marry, though many are no doubt cured. Many are never cured and bring into the world diseased children. A person with a chronic gonorrhea should never marry or in any way expose another to his or her infection. A person with an acute gonorrhea who endangers another is no better than a brute. Such a person should be segregated and quarantined until cured and free from infection.

PROOF THAT VACCINATION PROTECTS



Brothers and sister mingle while one has smallpox. The brother with smallpox never was vaccinated. The vaccinated children did not take smallpox.

From "Acute Contagious Diseases," by Drs. Welch and Schamburg.
Published by Lea Brothers, Philadelphia.

FIGURE 27.

CONTROL OF TYPHOID FEVER IN CHICAGO 1871 TO 1918

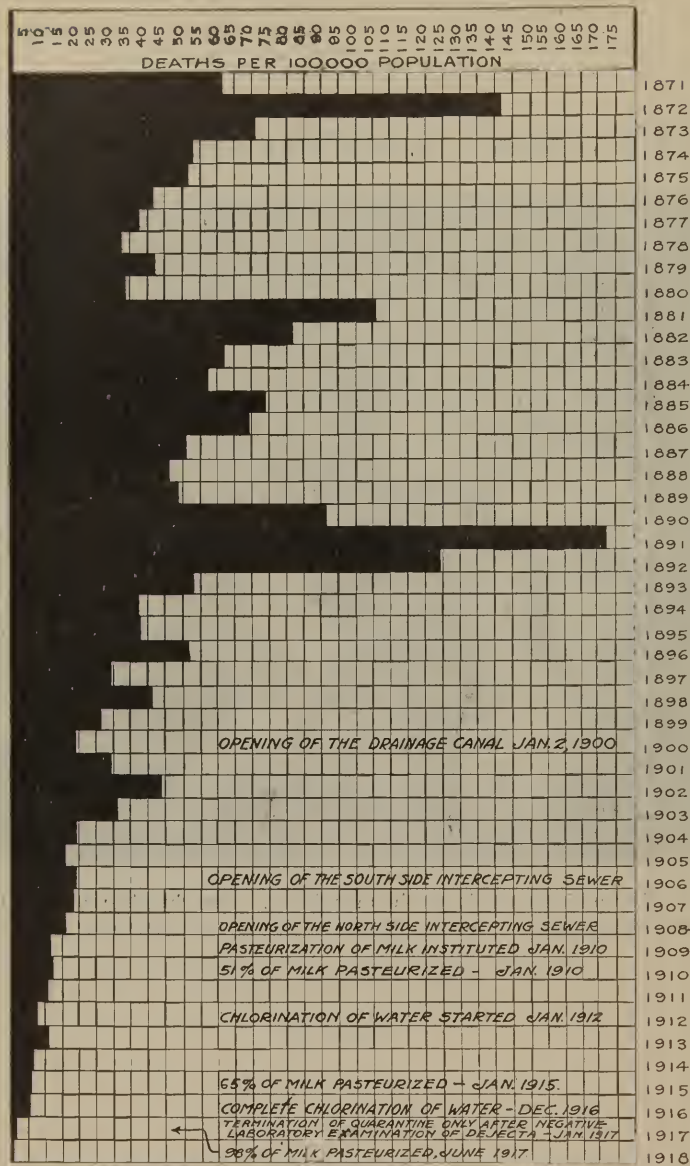


Chart shows reduction in typhoid fever to the lowest point reached by any large city in the world.

FIGURE 28.

CONTAGIOUS DISEASES -- Continued.Typhoid Fever.

A contagious, infectious and epidemic disease. It is a filth disease, contracted by swallowing discharges from the bowels or bladder of a typhoid patient in some way. The disease is entirely preventable if we apply what knowledge we have at the present time. Chicago has the lowest death rate of any large city; only 37 deaths from the disease occurred in 1918. Armies are practically free from typhoid as a result of general vaccination against typhoid and protection of food and water against typhoid contamination.

Cause: A germ - *Bacillus Typhosus*. This causes ulcers in the intestines.

How Conveyed: In milk and other foods; in water; by hand to mouth infection; by kissing. Carriers of typhoid who have recovered from the disease are a frequent cause of epidemics.

How to Avoid: Vaccinate against typhoid. Pasteurize the milk. Chlorinate the water supply. Control carriers of typhoid bacilli. They must be taught cleanliness and prohibited from handling or preparing food for others than themselves. The typhoid patient must be isolated in a room screened against flies. No one but the doctor and attendant is allowed in the patient's room. Everything must be disinfected before taken out of the room - even the bath water and remnants of food. The nurse and other contacts must be vaccinated against typhoid fever. The patient is released

from quarantine only after the bowel and bladder discharges are found free from bacilli by laboratory examination.

The onset of typhoid is usually slow. There is loss of appetite, coated tongue, usually constipation, though sometimes diarrhoea, headache, enlarged spleen and sometimes nose-bleed, chilliness and fever. The fever is slight in the morning and by evening increases a degree or more. In the beginning, it usually ranges from 101 in the morning to 102 or 103 in the evening. There is some dullness of comprehension. Occasionally these symptoms develop suddenly but usually they become gradually more pronounced for a week or two weeks before the patient takes to bed. A Widal test is not reliable before the tenth day.

Summer Diarrhoea of Infants (Cholera Infantum).

For the nurse, this is the most important of bowel diseases. It causes more deaths among babies than any one disease. There is pain in the bowels, vomiting and diarrhoea. Fever is present; bloody flux or dysentery accompanied by passage of mucus and blood. It is a catarrhal condition of the large intestine. There are two forms of dysentery, amebic or tropical dysentery, and Bacillary dysentery.

Cause: Numerous. Usually infection of some kind; bacterial infection by dirty milk; unclean feeding bottles; long tube on feeding bottle becomes dirty and infects intestines. Hot weather and overdressing the child causes ill condition and prevents or impairs digestion of good food which may act as a poison to the child. Simple dysentery

is produced in the same way.

To Prevent: Put as little clothing as possible on the baby in the summer time. In very hot weather it is sometimes well to limit the clothing to a light band about the bowels. Feed pasteurized milk in smaller quantities during hot days. If diarrhea comes on, stop the milk and give water, barley water and perhaps a dose of castor oil until the doctor is called. Do nothing to prevent vomiting and discharges from bowels, as this is the natural way of getting rid of injurious substances in the bowels.

Parasitic Diseases.

Malaria (Ague, Chills and Fever).

Very prevalent among the early settlers in and about Chicago. Still prevalent in the South and in Italy. Infectious but not contagious except indirectly by a bite from a mosquito that has bitten a person sick with malaria.

Cause: A germ or one-cell animal micro-organism - a Protozoon (*Plasmodium malariae*).

How Conveyed: Mosquitoes do not cause the disease but carry the germ from a malarial patient to the well. The anopheles mosquito must bite a patient having malaria and then bite a well person to convey the disease.

How to Avoid: Destroy all breeding places for mosquitoes by draining or use of oil. Allow no bottles or tin cans or any barrels, tubs or pails to stand about to catch rain. One can filled with stagnant water will furnish mosquitoes for a whole block. Screen the patient so mosquitoes cannot become infected by biting an infected person.

Yellow Fever.

Infectious and epidemic but not contagious except by the bite of a mosquito infected by biting a patient suffering from yellow fever. The disease is nearly extinct as a result of the discovery in 1890 that the mosquito disseminated the disease.

Cause. A germ no doubt, but it has not certainly been discovered.

Mode of Transmission: By the bite of a mosquito (*Stegomyia Fasciata*) that has bitten a yellow fever patient.

How to Avoid: Destroy breeding places of mosquitoes by drainage or cover open water breeding places with oil and screen existing cases, the same as for malaria.
Chickenpox (Varicella).

Acute contagious, epidemic disease. Child's disease though adults have the disease when exposed to it, if they escape it in childhood. Comes on two weeks after exposure without chill or fever. Adults may have slight fever for a day. First thing noticed is an eruption or breaking out on the skin, more on the body than on the limbs. The vesicles resemble small blisters and can be found in the hair, in the mouth and throat and sometimes on palms of the hands and soles of the feet. There are succeeding crops, so we find side by side vesicles, pustules and scabs. The fever is most noticeable when the eruption is well out. Some cases are so mild as to have no fever.

Cause: No doubt a germ but it has not been discovered.

How Conveyed: By close association with a patient but not often on things.

How to Avoid: Isolate the patient until the scabs are all off and skin smooth - ten days or two weeks. Isolate susceptible contacts for two weeks from date of exposure.

The nurse will probably have the disease if susceptible.

Smallpox. (Variola).

A contagious, epidemic disease. of great historic interest. Begins ten to fourteen days after exposure to smallpox with a chill or chilly feeling for half a day, followed by fever, headache, backache, nausea or vomiting, coated tongue, foul breath, sometimes delirium. A child may have a convulsion instead of a chill. These painful symptoms last for three days. The eruption then appears, first on face, in the throat and on the hands; the eruption is more profuse on the exposed parts than on the body. On the evening of the third or morning of the fourth day, the fever and all painful symptoms disappear as the eruption comes out. The eruption is first papular, then vesicular, then pustular and last scabs. The changes from papule to scabs require ten to twelve days. In fourteen to twenty-one days the scabs fall off and leave a discoloration which lasts for months. As the vesicles turn pustular, a secondary fever comes on which lasts until the scaling begins.

Varieties:

Smallpox without eruption.

Discrete - But few eruptions.

Confluent - Pustules run together.

Confluent pustular hemorrhagic - hemorrhage into the pustules.

True hemorrhagic - no eruption but bleeding from mouth, nose, under and into the skin and from all the openings of the body. The small blood vessels give way and bleeding results.

Cause: Supposed to be an animal micro-organism (Protozoon) but not certainly known.

How Conveyed: From person to person, by close association, can take the disease by talking with a patient in a room or the open air. The infection is carried on things when freshly contaminated. This disease is conveyed on things more frequently than is the case in other contagious diseases.

How to Avoid: Smallpox can be called the fool's disease or the optional disease, for everyone can avoid it. If they have it, it is of their own choice. Vaccination with revaccination is an absolute preventive. Vaccination is a simple and harmless procedure when properly done and cared for.

The patient is isolated in a hospital or at home. No one is allowed to enter or leave the house except the doctor. The nurse and contacts must be vaccinated. All infection must be destroyed with a disinfecting solution or by burning. Those in contact with a patient, unless vaccinated, are also quarantined for 18 days.

Impetigo Contagiosa. (Contagious).

An acute inflammation of skin in spots, causing vesicles or blisters. These break, forming large sores.

Cause: Germs of various kinds, probably streptococcus and staphylococcus as these are found in the sores constantly.

How Conveyed: By contact from person to person and from one part of the body to another on same person.

How to Avoid: Avoid contact with the sores. Clean the sores and dress them with an antiseptic salve and apply gauze dressing.

Scabies - Itch.

Contagious. Causes much itching, especially when exposed to heat. Slight pimples with watery top. The parasite can be seen with a magnifying glass.

Cause: An animal parasite - *Sarcoptes scabiei*.

How Conveyed: By contact, shaking hands, or handling a person who has the disease.

How to Avoid: The sores can usually be seen on a person's hands. Avoid shaking hands that have sores upon them. Sulphur with lard kills the mite.

Dysentery (Amebic or tropical, Bacillary dysentery.)

Epidemic and contagious. Both varieties caused by a parasite. An inflammation of the lower bowel, causing frequent stools, straining, blood and mucus, pain in abdomen. The microscope is necessary to determine which parasite causes the disease, as the symptoms are similar, though the bacillary form has a more acute onset. Camp dysentery tends to become chronic, especially amebic dysentery.

Cause: Germs, parasites, protozoon (*ameba coli*, *bacillus Shiga*).

(Contagious Diseases)

How Conveyed: In water or milk. Can be conveyed by hand to mouth.

How to Avoid: Keep hands clean, pasteurize milk and chlorinate water.

Typhoid Dangers at Summer Resorts

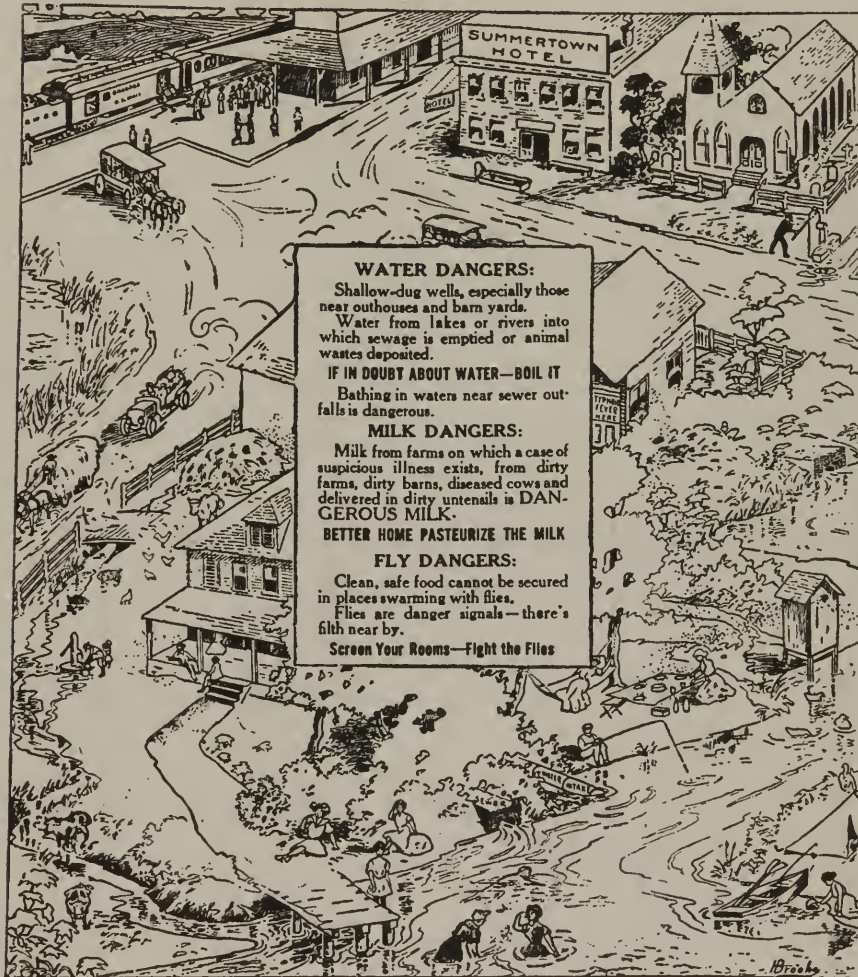


FIGURE 29.

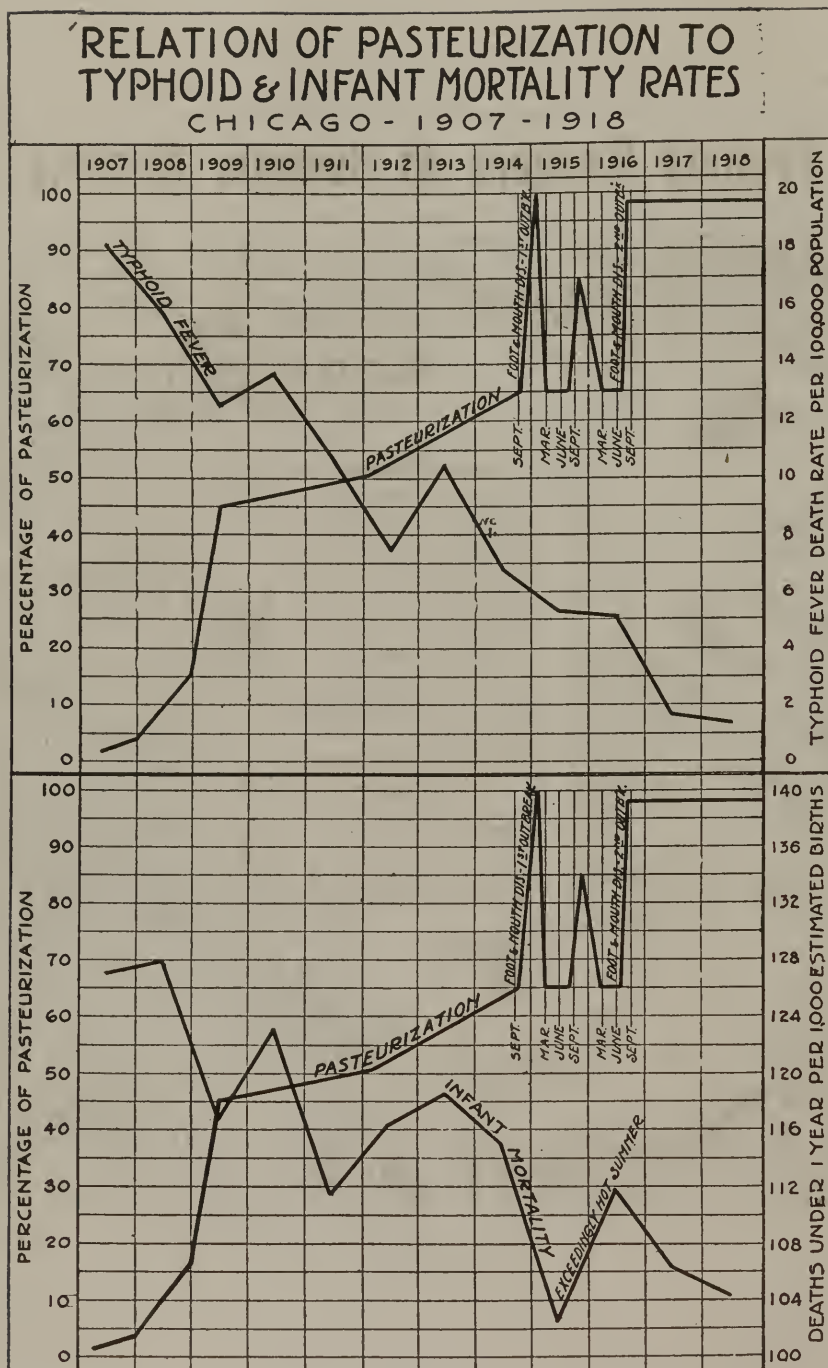


FIGURE 30.

LESSON 21.

PRINCIPLES OF CONTAGIOUS DISEASE NURSING.

The nursing technic as practiced in the care of contagious diseases is based on the modern conviction that nearly all contagious diseases are acquired through direct or indirect contact. Therefore, since the hands are the most common medium of carrying the infection, the most oft repeated slogan for nurses in the contagious disease sick room is "Wash your hands every time you think of it all the time."

Going on Duty.

When going on duty the nurse proceeds first to a room adjoining the sick room and changes the street uniform she is wearing for the gown to be worn in the patient's room. She also puts on a cap that entirely covers her hair, and if she is going to work directly over the patient she also puts on a mask. These sick room uniforms should preferably consist of white muslin coverall aprons with short sleeves.

Leaving the Sick Room.

When going off duty the nurse leaves her duty uniform in the sick room, washes her face, washes and disinfects her hands and arms, and then goes to the dressing room and puts on her house uniform.

To carry out this technic it is necessary that the nurse should be supplied with two dresses, several caps and masks, and a piece of muslin or cap used to cover the hair. The street dress is kept outside of the door and the

dress worn while taking care of the patient left outside of the sick room. With this system a nurse can go out for a walk each day with no danger of carrying contagion and can safely go to the dining room for her meals.

Room Equipment Necessary for Contagious Case in a Private Home.

Everything but absolute necessities should be removed from a room to be occupied by a contagious case. Washable furniture is preferable. An iron or enameled bed, a white enameled table or a table covered with white oilcloth, and a chair constitute the essential furniture.

Washable rag rugs are best; if washable rugs are not available use bare floor. If curtains are left up they should be washable.

Foundation blankets can be used in place of a mattress, especially if the patient is a child. The blankets should be folded to fit the size of the bed and be pinned together at the four corners with blanket safety pins. Then fold and pin a sheet over the blankets very snugly and make the bed as a regular hospital bed. There should be a wash stand equipped with water basin, green soap, if possible, antiseptic solution, towels, nail brush and orange-wood stick. A basin should be on hand for bathing the patient, and a receptacle of some kind for antiseptic solution to be used for soaking soiled linen. A child's bath-tub is well adapted for this purpose.

A jar with a 50 per cent. solution of alcohol for the thermometer is also essential. A shade of some sort

for light is usually necessary. A bedpan and toilet articles, such as a brush and comb, tooth brush, tooth paste, drinking cup, are also required.

The drugs needed besides the doctor's prescriptions will be a can of chlorid of lime, a bottle of alcohol, some lysol or other disinfectant, a throat gargle of some sort, camphor ice or some healing salve for the lips, and talcum powder. A supply of paper bags for disposing of waste should also be on hand; if not available then old newspapers will do.

A cupboard should be placed just outside the room where clean linen supplies can be kept. A clean gown and cap should be hung just outside the door for the doctor to put on before coming in the room.

Laundry Technic.

In the case of actively contagious diseases the bed linen, gowns of the patient, towels and other laundry should be immersed in a disinfecting solution, such as a five per cent. carbolic, or ten per cent. Liquor Cresolis Compositus, for an hour before removing from the sick room. In the less actively contagious diseases, such as tuberculosis and typhoid fever, the soiled linen can be tied in a clean sheet and taken to the basement, where it is immersed in a boiling solution of soap-suds and then safely washed by anyone after being boiled for half an hour.

Disinfection of Dishes, Utensils, etc.

Dishes taken out of the sick room should first be sterilized. This is best done by first removing

scraps of food and then boiling for fifteen minutes. The food scraps are received in paper bags which are taken to the furnace for burning. Cups, basins, urinals, bedpans, etc., are disinfected by washing with soap and water, and boiling for fifteen minutes whenever considered necessary.

Paper bags pinned to the bed may also be used for receiving directly any pieces of gauze used for mouth and nose excretions, and for tongue depressors, throat swabs, dressings, etc. In this way none of the discarded material needs to be touched by the hands of the attendant. A supply of paper bags is very useful in home nursing for the reception of all kinds of infected material which can be burned. Newspapers pinned in the shape of a receptacle can be improvised if bags are not available.

Releasing Patients from Quarantine.

The nurse puts on a clean gown, wraps the patient in a clean sheet and conducts him to the bath room where she spreads the sheet on the floor, uninfected side down. The patient stands on this sheet and removes his clothing; then gets into the tub. The nurse then gathers up the sheet with the clothing inside and puts it in the laundry can. After the patient has been scrubbed and shampooed with green soap he is given an alcohol rub and is then ready for dressing and release from quarantine.

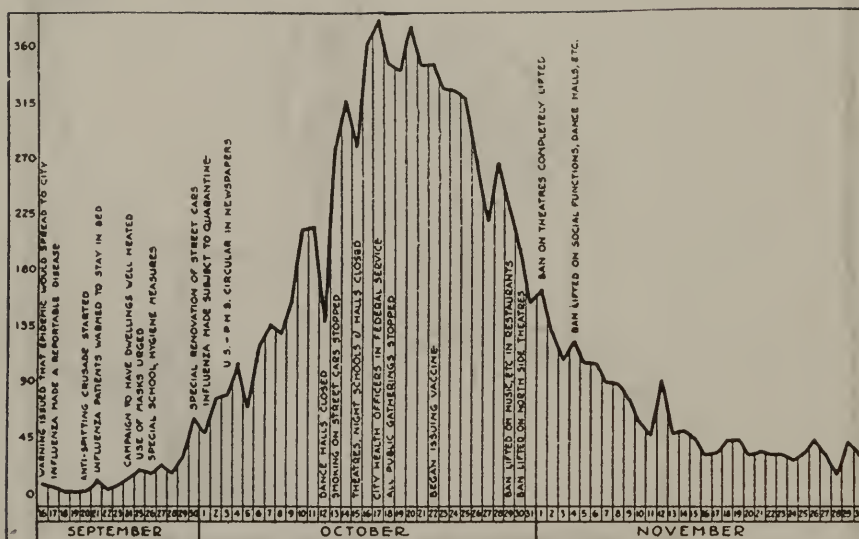
Muzzle *the* Microbe



ANTICIPATE
***your* SNEEZES.**
and help
PREVENT DISEASES

Chicago Department of Health - Cut No. 322 · Designed by Arthur M. Corwin, A.M., M.D.

FIGURE 31.



Daily Deaths from Influenza and Pneumonia, and Principal Preventive Measures taken During Course of Influenza Epidemic.

FIGURE 32.

NURSING CARE OF INFLUENZA PATIENTS.

Influenza is an actively contagious disease, characterized by an infection of the respiratory tract. The influenza bacillus (Pfeiffer) has been considered as the cause of the disease, but it is probable that other bacteria also play a role in the development of the malady.

Influenza occurs at irregular intervals as a pandemic, i.e., as a disease encircling the earth. Five such visitations have occurred during the last hundred years, and sixteen authenticated outbreaks have been recorded previous to that period.

Following such pandemics, influenza usually recurs in endemic or epidemic form for a period of years. Such local outbreaks followed the pandemic of 1889-1890 for a period of three years. In Chicago high death rates from influenza and related diseases of the lungs occurred in March and April, 1891; January and February, 1892, and in February and May, 1895, following the first outbreak in January, 1890. There is every reason to believe that similar epidemics of the disease will follow the pandemic of 1918.

In the interval between pandemics isolated cases of the disease always occur in varying numbers.

Symptoms.

The disease usually develops within two or three days after exposure to infection. The symptoms are extremely variable, but catarrhal symptoms of the respiratory

tract, such as running nose, sore throat, tonsillitis, bronchitis, with the resultant sneezing and coughing, occur in the majority of cases. The onset is usually sudden, with chilliness followed by fever, headache, intense general pain and prostration. These general symptoms are usually much more severe than in ordinary "colds."

The temperature rises to 103 or 104 degrees and lasts only from one to four days, or less than a week, if complications do not set in. The most common complication and the most frequent cause of death is broncho-pneumonia. This often begins insidiously without a chill and is characterized by shortness of breath and increased coughing and expectoration.

In some cases the nervous symptoms may predominate. The headache and general, or neuralgic, pains may be severe. In some cases a violent delirium occurs.

Precautions Necessary to Prevent the Spread of Influenza.

The nurse in caring for a case of influenza has a two-fold duty, namely, the care of the patient and preventing the spread of the disease to others, including herself. Every case of influenza should be looked upon as contagious. The very nature of the disease points to the secretions of the respiratory tract as the potential source of infection. Therefore, the utmost care must be taken in the disposition of the sputum and the care of handkerchiefs, linen, clothing and other articles upon which secretions of the nose, mouth, bronchi and lungs have been deposited. The nurse should ever bear in mind that innumerable in-

visible droplets of such secretions, carrying the infection, are expelled during every act of talking, coughing and sneezing, and also that infection is imparted, by means of the mouth secretions, to spoons, knives, forks and other utensils used by the patient.

It should always be borne in mind that the hands of the patient may be the means of transmitting the disease.

From the foregoing facts it is evident that the only means of preventing the spread of infection from a given case of the disease is the isolation of the patient. Therefore, it is the practice of the Chicago Department of Health to enforce the following rules in the isolation of persons suffering from influenza:

"Any person having influenza shall be confined to a large, well-ventilated room of proper temperature, as remote from other occupants of the premises as is practicable and necessary to avoid contact.

"The period of isolation shall continue during the course of the disease and until all clinical manifestations of the disease have disappeared and the temperature has been normal for five successive days.

"None other than the necessary medical and nursing attendants shall enter the sick room or come in contact with the patient. The attendant should wear a face mask of gauze or other approved material when in attendance on the patient.

"All discharges from the respiratory tract, mouth, throat and nose of the patient shall be received in cloths which shall be burned immediately after using, or in vessels containing an approved disinfecting solution.

"Soiled body and bed clothing shall be disinfected by boiling or by immersion in an approved disinfecting solution. Any article used by the patient or attendants, such as knives, forks, spoons, glasses, cups, plates, etc., must be disinfected before leaving the sick room. Floors, furniture and woodwork should be wiped up daily with an approved disinfecting solution.

"Then the foregoing precautions are properly observed, other occupants of the premises who show no evidence of illness need not be confined to the premises. It is recommended, however, that persons residing on premises on which a case of influenza exists should refrain so far as possible from attending public gatherings and avoid unnecessary contact with other persons. Visiting on such premises is strictly prohibited.

"Milk bottles must not be taken into patient's room, and must be boiled by family before returning to milkman.

"The premises will not be placarded unless the family refuses to comply or fails to comply with above requirements.

"When the case is fully recovered the patient must be given a bath and clean clothes.

"The family must thoroughly boil the bed linen, and other articles in the room occupied by the patient which can be boiled without injury, and must thoroughly scrub woodwork, floors, etc., and air and sun the room before permitting it to be occupied again."

Nursing Care of the Patient.

Persons suffering with influenza should be under the care of a physician. Even the mildest cases may develop serious complications and the vagaries of the disease are such that serious developments may occur unexpectedly at any time. Relapses and complications may occur after the acute symptoms and fever have subsided.

It is very essential that a person sick or suspected of being sick with influenza should be confined in a room at once and go to bed. This will also help to prevent the spread of the disease.

The room should be well ventilated, free from dust, and be abundantly supplied with sunlight. It is a well-known fact that persons suffering from the catarrhal symptoms of influenza experience ill effects from drafts and cold. Therefore, the room temperature must not be allowed

to fall below 68 degrees Fahrenheit and drafts must be avoided by obtaining the necessary supply of fresh air when possible through windows open in adjoining, unoccupied rooms. If this is impossible then windows must be opened from the top, or the air must be deflected by window boards, as explained in a previous lesson.

At the onset, when the patient complains of chills, he may be given a drink of hot lemonade, be well covered with warmed blankets, and have hot water bottles placed at his feet.

Baths for fever should be given under the physician's directions. As a rule, influenza patients are very susceptible to cold applications; therefore, warm sponge baths will be found less disturbing and hot applications are most advantageous for the relief of pain.

Chilling the patient should always be avoided. The windows should be closed when changing the gown of the patient or when doing anything which involves his exposure.

The diet should be light and easily digestible, such as milk, milk toast, eggs and gruels. Water should be given freely. Hot drinks may also be given and are often provocative of good results.

All uneaten food should be scraped from the dishes, wrapped in a newspaper and burned. The dishes and utensils should be immersed in water and boiled. Then they may be returned to the kitchen of the house.

The patient should cover his mouth while coughing, using a gauze or paper napkin. A supply of these

should be kept pinned to the bed within reach of the patient. When used, they should be put in paper bags and burned. In the case of a very weak patient, coughing a great deal, a towel may be placed over the bedding near the patient's face. This should be changed frequently and be immersed in a disinfecting solution.

Medicines should only be given under the physician's directions. Many of the remedies commonly taken for "colds" or headaches, which are the usual symptoms of influenza, contain coal-tar derivatives which are depressing and therefore may do great harm if the patient should have an attack of pneumonia or a weakened heart, as is often the case in influenza.

Similarly, the narcotics, like opium, morphin and codein, are usually injurious in diseases of the lung; hence cough syrups or other remedies containing the same should never be given unless ordered by the physician in attendance on the case.

Alcohol tends to increase the headache and should also be avoided unless ordered by a physician.

Complications.

The nurse must be on the lookout for complications and must see to it that the physician is notified when symptoms develop indicating their occurrence.

The most common complication is broncho-pneumonia. This occurs in from five to eight per cent. of the cases. Pneumonia, complicating influenza, usually begins without a chill, but with increased cough, expectoration and short-

ness of breath. The temperature may be only slightly more elevated. It seldom sets in until after the fourth day of the illness. A recurrence of temperature after it has reached normal is suggestive of pneumonia.

The development of pneumonia makes the outcome of the case more uncertain since the death rate in this form of pneumonia is very high; in uncomplicated influenza few die compared with the number attacked, while in influenzal pneumonia the death rate reaches from 20 to 50 per cent.

It is for this reason that the most careful attention must be given to every case of influenza, because even the mildest may develop this serious complication, especially if neglected or not cared for properly. Even during convalescence pneumonia may occur if the patient leaves his bed too early or gets chilled.

With the supervision of pneumonia rest in bed must be enforced absolutely. The patient must be spared every effort and his wants anticipated as much as possible. Sometimes a strain on the heart, caused by any unusual effort of the patient, such as a sudden change from the reclining to a sitting or standing position, may prove fatal. If the patient finds it easier to breathe if propped up by several pillows this may be allowed, but the change must not be made suddenly.

It is now more important than ever that an ample supply of fresh air shall be admitted into the sick room. Every additional person in the room deprives the patient

of a part of the air supply, especially if the room is small. For this reason, other members of the family must not be allowed to congregate in the sick room.

The nurse must be attentive to every want of the patient. Severe pain in the chest, due to an accompanying pleurisy, may give the patient a great deal of distress, and make breathing painful and difficult. This should be reported to the physician in attendance. In an emergency local applications of turpentine and lard or camphorated oil may be applied. Poultices, mustard plasters, hot applications, ice bags, strappings and binders should be applied only under a physician's directions.

High fever may be relieved by sponging with tepid water, but chilling of the patient must be avoided. Cold baths are poorly tolerated by influenza patients. If headache is excessive cold cloths or an ice bag may be applied to the head.

Actively delirious patients may require restraint, which must be carried out under a physician's directions. In an emergency the nurse should summon a member of the family who, after being properly masked, may assist in keeping the patient in bed. Severe nervous symptoms are sometimes relieved by warm baths.

Miscarriage is a complication which may occur when the patient is pregnant. The nurse should note the signs of its occurrence, such as uterine hemorrhage, and at once report the same to the attending physician. In the meantime the patient must be kept absolutely quiet and

in bed.

Children, although more rarely affected with influenza than adults, may develop middle ear disease as a complication. This is characterized by restlessness, tossing of the head, putting the hand to the affected ear, and later, by a discharge. These symptoms, when noted, should be reported promptly to the physician in charge of the case. In an emergency a hot water bag may be applied to relieve the pain.

Convalescence.

Great care is necessary during convalescence. A relapse or complication may follow too early leaving of the bed or resumption of duties. Patients continuing to have cough and expectoration may be the source of spreading the infection when allowed to mingle with the public.

It is the duty of the nurse to impress these facts upon the patient and see that he takes proper care of himself until complete health returns. A nutritious diet and an abundance of fresh air will hasten recovery. Chills, exposure and over-exertion should be avoided.

Protection of Nurses' Health.

Nurses caring for influenza patients should take the necessary precautions to prevent contracting the disease themselves. To this end they should always bear in mind the manner of transmitting the disease. Inasmuch as infection takes place through the respiratory tract, from droplets and germs expelled by the patient, it behooves the nurse in attendance to guard herself against the inhalation of infection by wearing a gauze mask over her

nose and mouth. Such a mask is made with from four to six layers of gauze or buttercloth (30-40 mesh), approximately six by eight inches, with tapes at the two ends for tying over the head.

Masks should be changed whenever moist and at least every three or four hours. If the mask becomes infected by a severe coughing spell of the patient, it should be changed at once and the face washed with soap and water. It is preferable that a supply of fresh, clean masks be on hand, but where this cannot be done they may be boiled for ten minutes, dried and used again. The supply of clean masks should be kept wrapped in clean paper and not exposed in the sick room before using.

The nurse, in order to avoid infection, must pay especial attention to her hands. There are innumerable and many unavoidable sources of infecting the same. Of these the nurse should be conscious whenever necessity arises for removing her mask or leaving the sick room. Washing with soap and water and immersion in a simple disinfecting solution are the means to be depended upon for disinfection of the hands.

The other precautions for avoidance of infection, already enumerated in the previous lessons on contagious disease nursing, should not be neglected. The nurse must ever bear in mind that in guarding against disease the body should be kept strong. Therefore, it is important that she go out into the fresh air every day. To make this possible she must take the necessary precautions to

protect her dress and hair from infection while in the sick room.

In taking her airing the nurse should be careful not to get chilled. If the fresh air treatment is used in the patient's bedroom the nurse should wear a sweater under her gown, being careful to protect the sleeves of the same with paper cuffs.

The nurse should not sleep in the patient's bedroom. When this is absolutely necessary she should see to it that the ventilation is adequate for two persons.

A person who has had the disease is not likely to contract it again in the near future. The effects of the disease can be mitigated by vaccination with mixed vaccine. This procedure, although not a sure preventive against an attack of influenza, offers a certain protection against pneumonia and other complications, which are the usual causes of severe illness and death. Recently a lipo-vaccine has been introduced which can be given in one injection.

Therefore, it is recommended that nurses expecting to engage in the care of influenza patients should be protected by vaccination. But under no circumstances should vaccination be relied upon entirely for protection. The other precautions heretofore enumerated must still be followed. The same is also true for persons who have had a previous attack because the whole question of immunity in influenza is still enveloped in uncertainty at the present time.

NURSING CARE OF PATIENTS SUFFERING FROM TUBERCULOSIS.

The nurse's chief duty in taking care of a case of tuberculosis is to prevent the disease from spreading to other members of the patient's family, or of his community. In order to do this it is necessary that she should know something of the history of the disease.

Tuberculosis, commonly known as Consumption, is a contagious disease caused by the tubercle bacillus. This bacillus may grow in any part of the body except the hair, the nails, and the teeth. You may, therefore, have tuberculosis of the bone, tuberculosis of the eye, tuberculosis of the brain and nerves, usually called cerebrospinal meningitis, tuberculosis of the lungs, etc.

When children have the disease, it is usually in the glands of the neck, in the bones, in the joints, or in the serous membrane. Lung tuberculosis develops usually between the ages of fifteen and forty.

For many years it was generally believed that tuberculosis was hereditary. This, however, has never been proven to be true. We do know that the germ of the disease enters the body in three ways, - by inoculation, by inhalation, and by ingestion.

If one cuts one's finger germs may get into the cut and so enter the body. In this manner one would get the disease by means of inoculation.

The common means of getting the disease is by inhalation, - that is, by breathing in the germs in dust-

laden air.

Patients harboring tubercle bacilli in their lungs and bronchi will expel the same, not only in the visible secretions, namely, the sputum, but also in connection with innumerable, tiny, invisible droplets of mucus, which are expelled in every act of talking, coughing and sneezing. These carry the tubercle bacilli into the air from whence they are inhaled by persons coming into the zone in which they are expelled.

Dust taken from the homes of tuberculous patients in Chicago has killed guinea pigs in the laboratories. In the third method of infection, ingestion, the tubercle bacillus is on or in the food we eat. Formerly milk was a great carrier of tubercle bacilli in this city, but now that the milk is all pasteurized there is little danger from this source.

There is no other disease that has so great a variety of symptoms. There may, in fact, be no symptoms at all, and yet the person may have tuberculosis.

If a person has frequent and protracted colds, - colds that are hard to get rid of and that return as soon as one is rid of them - tuberculosis should be suspected. If a person is anemic, thin, and easily tired, he should be examined for tuberculosis. If there is a slight, persistent hoarseness, or a persistent cough, tuberculosis should be suspected. If a person in apparently good health feels a little tired in the afternoons and finds that his temperature is a little above normal, he should be examined for tuberculosis.

Tuberculosis is easily cured in its early stages, but is difficult to cure in the advanced stages. Therefore, anyone that suspects the presence of the disease in himself should consult a doctor at once.

In Chicago everybody is supposed to report a case of tuberculosis, or a suspected case of tuberculosis, to the Health Department. This is because the disease is very contagious, and it is extremely dangerous to children, and the Health Department desires to be in a position to protect the tuberculous patient's family and neighbors from contagion.

Medicine is of no value in treating tuberculosis. The only remedies are rest, fresh air, good food, and sunshine.

When the nurse has secured these essentials for her patient she has done all that she can for him personally. The following rules all tend toward preventing the spread of disease, which is, by far, the greater part of her work:

(a) Isolate the patient. Have him room alone and sleep alone. It is well, for his own sake, to have him sleep out of doors, if possible.

(b) Boil and keep separate all dishes and drinking cups used by the patient.

(c) Keep the patient's mouth covered with a paper napkin while he is coughing or sneezing. Have him use a paper napkin instead of a handkerchief for his nose. Have him cough or spit sputum into paper napkins. Keep

all these napkins in paper bags, and burn what are collected at the end of every five or six hours.

(d) Never allow the patient to fondle or play with small children. Never allow him to kiss anybody.

(e) Infected discharges from the patient, such as the sputum, pus from tubercular abscesses, etc., should be disinfected with a five per cent. solution of carbolic acid before being disposed of.

(f) After a tuberculous patient has been removed from a room the room must be thoroughly disinfected before anyone else uses it. The floors, window-sills and walls, if washable, should be washed with germicidal solution; the patient's linen, towels, and bed linen should all be boiled, and bedding which cannot be washed must be disinfected along with the room.

To disinfect the room all openings must be closed. A clothesline should be stretched across the center of the room, and all bedding, draperies and clothing that cannot be boiled should be spread out across this line. Books that the patient may have handled should be spread out open on a table. Place a tin pail in a wash tub in the middle of the room. Heat the pail and put in it six ounces of potassium permanganate for every one thousand cubic feet of room space. Pour over this one pint of 40 per cent. formaldehyde for every one thousand cubic feet of room space. Leave the room hastily as the gas formed is very powerful, and acts very quickly. Close the door and seal it. Leave it sealed

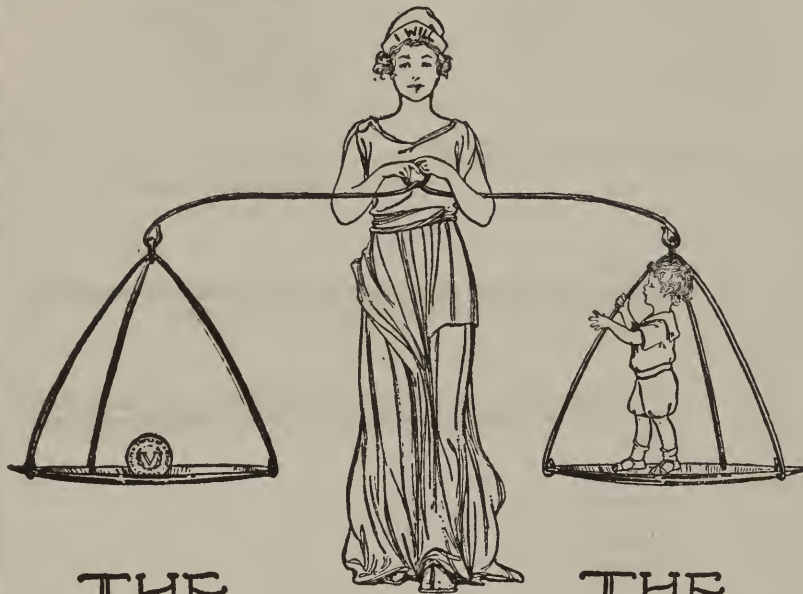
from eight to twelve hours.

After articles in the room have been disinfected they should be hung in the sunshine for a day or two. Toys and articles of little value should be burned.

(g) In any surgical case involving a tuberculous patient, the nurse should receive all soiled dressings on newspapers and burn them. The soiled clothing of the patient and the soiled bedding should be placed upon newspapers, should be rolled up in the newspapers and should be carried at arm's length to prevent their contact with the nurse's clothing. All such clothing and bedding should be put in a disinfecting solution where they should remain until washed and boiled.

The Department of Health will be glad to send full information concerning the Municipal Tuberculosis Sanitarium and the Municipal Tuberculosis Dispensaries to anyone who cares for it.

WHICH?



THE
NICKEL

-VS-

THE
BLIND BABY.

WHICH WAY WILL CHICAGO TIP THE SCALES ?

Chicago Department of Health - Educational Series No. 93

KATHERINE
FELD
WHITE.

FIGURE 33.

DEATHS RESULTING FROM CHILDBIRTH 1912—1918

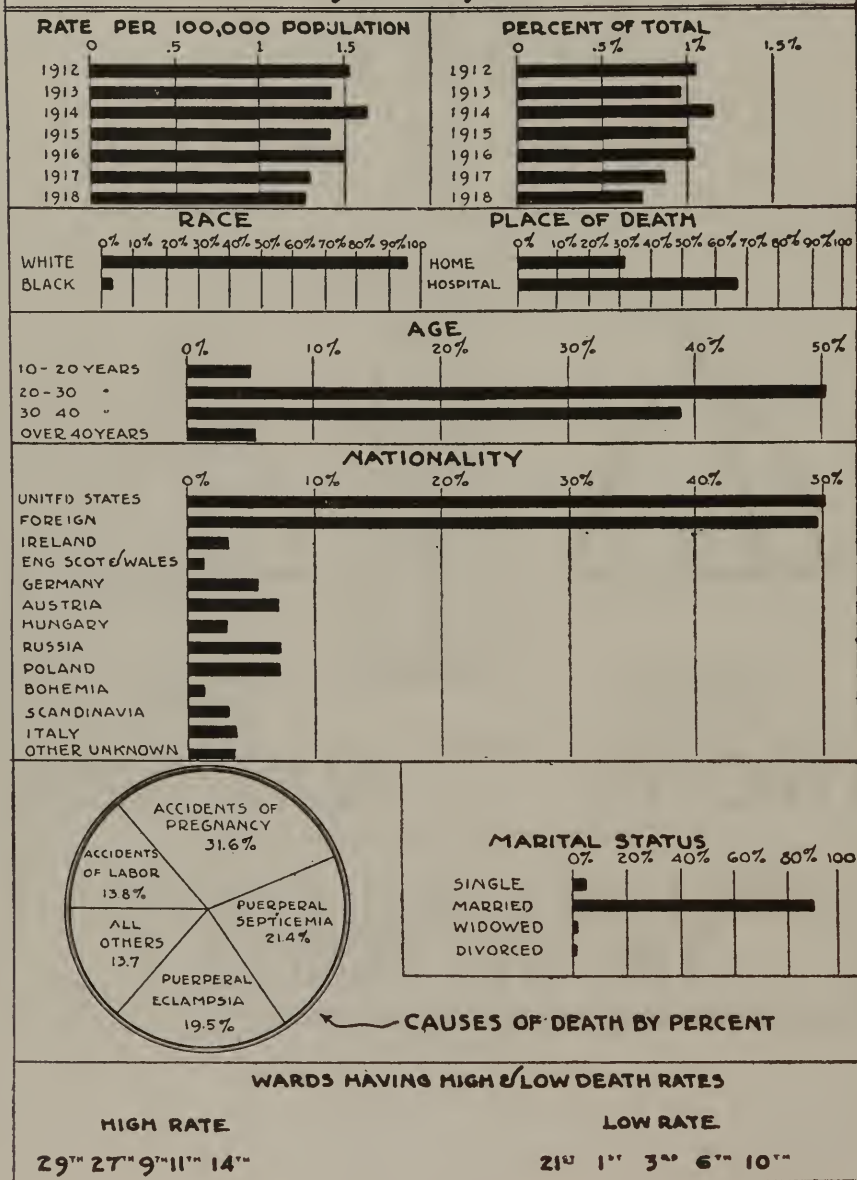


FIGURE 34.

LESSON 24.

OBSTETRIC NURSING

Obstetrics is the science of midwifery.

Ovulation.

At the time of birth the female child has many ova or eggs within the ovaries. They do not become active until the age of twelve or fourteen years. Then they are expelled periodically. This is known as the period of Ovulation, and is characterized by a white or a yellowish discharge from the vagina. At this time the girl will ask questions pertaining to this matter, and she should be answered truthfully and frankly.

Puberty.

Puberty is the earliest age at which persons are capable of begetting or of bearing children. Puberty occurs earlier in warm countries and later in cold countries, varying from ten or twelve years in the tropics, to twenty-six or twenty-eight years in the Arctic Zone. In our climate it usually occurs between the fourteenth and the sixteenth year, although it may occur as early as the tenth year, or as late as the twentieth.

Menstruation.

Menstruation is a monthly discharge of blood, lasting from three to seven days. It begins at puberty and lasts until the menopause, which usually occurs from the fortieth to the fiftieth year.

Mothers should instruct their daughters before puberty in personal physiology and hygiene.

Pregnancy.

The symptoms of pregnancy are cessation of menstruation, enlargement of the breasts, morning sickness, etc.

The duration of pregnancy is 280 days. In order to determine the time of delivery, count three months back from the last menstruation, and add seven days. For example, Mrs. X menstruated October 10th, then July 17th would be the time for her confinement.

It is well to engage the doctor as soon as the patient knows that she is pregnant. The doctor will give her advice, and will examine her urine at stated intervals. The doctor should be consulted before engaging a nurse, as most doctors have their own nurses, and prefer to have them present.

The nurse should visit the patient a few weeks before the expected date of confinement, and should make herself familiar with the rooms and the arrangements of the house. She should also sterilize supplies at this time.

Diet.

The pregnant woman should eat easily digested foods, especially milk, eggs, fruits and vegetables. She should eat little meat, and should drink sparingly of tea and coffee. She should drink two or three quarts of water each day in order to increase the elimination of body wastes.

Sleep.

The patient should have at least eight hours sleep each day, and if possible should have a nap in the afternoon.

Exercise.

Exercise is essential. The patient should walk in the open air several hours each day and should do light work. The patient must not take enough exercise, however, to fatigue herself.

Possible Complications of Pregnancy.

Disturbances of the kidneys

Heartburn

Varicose veins

Nausea and vomiting

Hemorrhoids or piles

Cramps

Leucorrhoea

Toxemia or blood poisoning

Miscarriage.

Heartburn is a burning sensation in the throat caused by the development of an over supply of acid in the stomach. A glass of rich milk, or a tablespoonful of olive oil before meal time, may relieve the patient.

Varicose Veins and Hemorrhoids differ from each other only in location. Both are caused chiefly by increased blood pressure. The patient suffering from them should rest during as much of the time as possible. In extreme cases she will have to consult the doctor. Relief comes immediately after the birth of the child.

Cramps of the leg muscles are caused by the pressure that is due to over distention. This can be relieved by rubbing the legs, by applying hot cloths to them, or by elevating the feet.

Leucorrhoea is a white discharge due to pressure of the womb on blood vessels. It is annoying but not serious. Douches must not be taken for it, except by order of the doctor.

Toxemia or Blood Poisoning is due to a failure to eliminate body wastes. The symptoms of it are persistent vomiting, headache, dizziness, spots before the eyes, pain in the pit of the stomach, puffiness about the eyes, hands and feet. A patient may have one or more of these symptoms and not have toxemia.

To prevent toxemia it is necessary that the kidneys be carefully watched. The doctor will examine specimens of the urine frequently, and if the amount of urine should decrease, the doctor should be notified at once. It is necessary that the patient should pass at least three pints of urine in every twenty-four hours. If not she is not drinking enough water.

Baths are a great aid in ridding the body of waste material during pregnancy. The patient should bathe frequently in warm water. She should be careful, however, to avoid chilling after the bath, and she should be careful in rubbing the body after the bath, not to rub the abdomen.

Miscarriage.

The patient should avoid the use of cathartics as they are often a cause of miscarriage. During the first months of pregnancy the patient should refrain from much exercise at what would be her regular period of menstruation, otherwise she may bring about a miscarriage. If she has a tendency to miscarriage, she should go to bed for these few

days. If a woman has had two or more miscarriages, she forms the habit, and the complication may become chronic.

A miscarriage is a very serious matter. At the first appearance of bleeding or abdominal pain the patient should go to bed. If the bleeding or pain continues, she should call the doctor.

Preparations for Confinement.

The nurse should have ready before confinement a maternity bed, and the following supplies:

- 2 to 4 pounds absorbent cotton
- 4 rolls of cotton batting
- 1 large package of sterile gauze (25 yards)
- 2 yards of stout muslin for abdominal binders
- 12 old towels or diapers
- 2 old sheets
- 2 yards of bobbin or narrow tape for tying cord
- 4 ounces boric acid (powdered)
- 1 bottle vaseline
- 1 pound Castile soap
- 1 quart grain alcohol
- 1 douche bag
- 2 stiff hand brushes
- 1 slop-jar or bucket
- 3 agate-ware basins, one 16 inches, and two 11 inches in diameter.
- 3 pitchers holding 1 quart each
- 1 rubber sheeting $1\frac{1}{2}$ yards, at least 36 inches wide
- 1 table oilcloth $1\frac{1}{2}$ yards, to protect mattress
- 1 medicine glass
- 1 medicine dropper
- 1 drinking tube
- 5 dozen sanitary pads to absorb discharges, (they are 10 inches long, and 4 inches wide, and are made of absorbent cotton, covered with gauze, and sterilized)
- delivery pads, (these are 1 yard square and 4 inches thick. Cotton batting may be used for most of the thickness, but the top layer should be of absorbent cotton. The whole should be covered with gauze, and made like a baby quilt)
- 2 dozen gauze sponges, made by cutting sterile gauze into 15 inch lengths.
- 3 dozen cotton pledgets, (these are wads of absorbent cotton about the size of an egg. They should be kept in a small pillow case)

50 gauze squares, 4 inches square, for the baby's eyes.

Linen bobbin, cut into six 9 inch lengths, for tying the cord.

These supplies must all be sterilized by the nurse. She should fill a wash boiler one-fourth full of water and bring it to a boil. Across the top of the boiler she should suspend a hammock made of muslin and fasten it to the handles of the boiler. In this hammock she will put all dressings, etc., placed in muslin bags. She should then cover the boiler and keep the water boiling for an hour. She will then remove the dressings and dry them in the sun or in the oven.

Preparation for Labor.

Labor is the entire period during which the child is being expelled from the body. The first sign of labor is backache, recurring regularly. A plug of mucus in the mouth of the uterus may loosen. This plug is about the size of a pea. With it will escape a bloody discharge. The appearance of this blood or, "Show", as it is commonly known, is a sure sign of the beginning of labor. At this time report to the doctor. Have the patient pass urine, measure the amount, and save from it about four ounces for the doctor. The nurse should now give the patient an enema in order to clear the bowels, because a full colon makes the pelvic opening smaller and interferes with labor. The nurse should next shave the vulva in order to lessen the risk of infection. The patient should then be bathed with green soap and well rinsed. The part of the body between the chest and knees should be sponged with an antiseptic solution. The

patient should be put to bed for examination which the doctor will now make to determine the progress of labor.

The nurse should have everything ready for the doctor to scrub up, and also a pair of sterile rubber gloves. The patient should not have any food at this stage, because it might become necessary for her to have anaesthetic. The nurse should get the room ready quietly. She should have a good supply of hot and cold boiled water in pitchers, that are carefully covered, and the bag of cotton pledgets. It will be necessary for her to have two tables ready. On one she should place all the necessary supplies, including a sterile douche can in case of hemorrhage. She should also have ergot and lysol ready for making fresh solutions. She should have on the table, also, a tall bottle with a lysol solution, for holding the long forceps with which she must hand to the doctor the cotton, pads, sterile towels, or sterile dressings that he may need. The nurse must remember that if she touches with her own hands any supplies that have been sterilized they will cease to be sterile, and the life of the patient, and of the baby, may be lost due to the infection that her hands carry.

The second table should be placed to the right of the doctor and should hold two pans, one for solutions, and the other for sterile water. On this table should be, also, a supply of pledgets, the boiling pan with scissors, and two artery forceps, which have been boiled ready for use. These things should be kept covered with a sterile towel.

The nurse should have ready the pieces of bobbin

for tying the cord. She should observe very closely what the doctor is doing, in order that she may hand him what he wants without loss of time.

A doctor should be in attendance from the first stage of labor for the law does not protect a nurse in case of the death of a patient. A doctor is licensed to practice; a nurse is not.

As soon as the baby is born, its eyes must be treated with silver nitrate, or argyrol. This comes put up in small bottles that are furnished free by the Health Department. This treatment of the eyes is necessary to prevent blindness in babies that have been exposed to gonorrhoea and other infections during delivery. The nurse who neglects to so treat the eyes is punished by law.

The cord must now be tied and dressed. If there is any difficulty about this, the doctor will attend to it. The infant is then oiled with albolin or with olive oil, wrapped in a clean towel, covered with a light small blanket, and put in a basket with hot water bottle at its back. Place the baby on its right side, because the liver is the largest organ at the time of birth. Lower the head somewhat to allow mucus to drop into the mouth, whence it can easily be removed by the nurse.

After the placenta, i.e., the afterbirth, has been delivered and the uterus has contracted, the doctor usually turns the patient over to the nurse. The nurse must make the mother comfortable, should sponge her face and hands, should give her some liquid diet, and should try to soothe her as much as possible. The mother is now likely to go to

sleep for several hours. While she is sleeping the nurse will remove all bloody and soiled linen from the room, and will straighten up the room generally. The nurse will then clean off the baby with a soft towel and will dress it.

After the mother has slept for four or five hours the baby is taken to her for its first nursing. Before the baby nurses the breasts must be washed and rubbed with *albolin*. The secretion in the breasts at this time is not milk, but is a fluid that is laxative in nature, and is necessary for the baby. The baby is allowed to nurse for fifteen minutes, then it is put back in its basket. The breasts are then washed with a boric acid solution, and the nipples are covered with small pledgets of absorbent cotton dipped in *albolin*. The nurse should then adjust a breast binder that fits just snugly enough to keep the pledgets in place, and to support the breasts.

The second day the patient should be given a large dose of castor oil, or whatever cathartic the doctor may order. This is given not only to empty the bowels, but also to help push out any blood clots that may have lodged in the vagina.

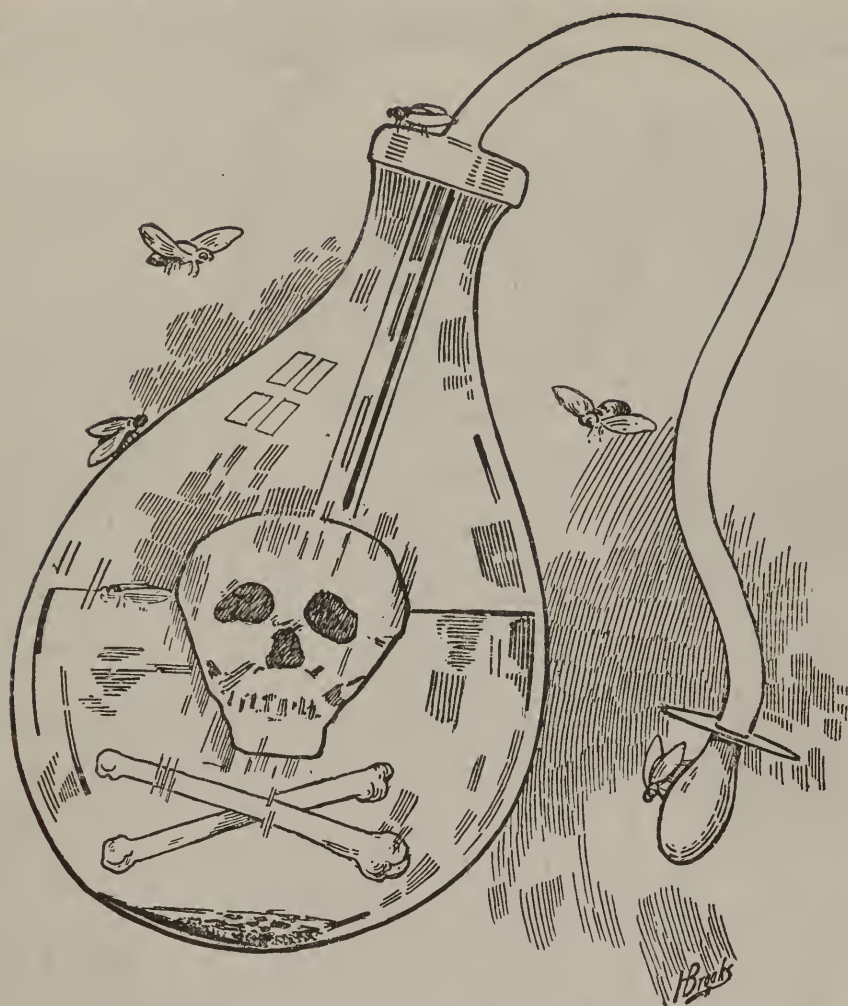
The second day the patient is ready for a good bath, a thorough cleansing of the bed, and proper adjustment of binders, and must have clean pads applied. The nurse must not forget that the discharge of this period is filled with bacteria, often with very infectious bacteria. The mother must be warned not to touch the vulvar pads. If she

should touch them and later touch her own breast, she might infect herself so badly that she would develop a mastitis. If she should touch them and then touch her baby she might infect it so badly that it would become blind.

The diet for the mother during the first five days should be liquid, soft, and semi-solid. Then add a little fresh fish, fowl, meat, green vegetables, and non-acid fruits. Should any food distress the mother or baby avoid it. Try it again a little later and get back to normal diet gradually.

There's Death in the Dirty Bottle

Thousands of babies have been killed through the use of dirty bottles



Pointers About The Baby's Bottle:

First: Get the right kind of a bottle—one without a tube, one easily washed. The best kind is one with large opening at top, the removable rubber cap and nipple forming the top of the bottle.

Second: Keep the bottle and nipple very clean. After each feeding remove the nipple and boil both bottle and nipple for ten minutes. Before using again rinse the bottle and nipple in boiled water—about a quart of water in which a teaspoonful of baking soda has been dissolved—or keep them in a pan of water containing a little soda when not in use.

FIGURE 35.

MOTHER'S MILK FOR MOTHER'S BABE COW'S MILK FOR CALVES

(God's Plan)



FIGURE 36.

LESSON 25.

CARE OF THE BABY.

All babies should be fed with mother's milk, if possible. It is the only perfect food for babies. It is always fresh; it is clean; it has the right body-building material in it, and it changes to suit the growing baby.

There are, however, conditions and diseases affecting the mother which make it necessary that she should not nurse her baby. A mother suffering from tuberculosis, epilepsy, insanity and chronic nervous diseases, should never nurse her baby. In case the baby must be fed from the bottle, a private doctor, or an Infant Welfare Station doctor, should decide the formula for the baby's food. Usually cow's milk is the best food for the baby that cannot have mother's milk.

Nursing the Baby.

The nursing mother should watch her own food carefully, as mistakes in her diet may result in constipation, diarrhoea, cramps, or colic for the baby. Some doctors advise against eating cabbage, tomatoes, cucumbers and onions. If, however, the mother eats these and the baby suffers no ill effects during the next twenty-four hours, there is no reason why the mother should not continue to eat them. The nursing mother must never allow herself to become constipated, and she should include in her diet as large a quantity of milk, cocoa, etc., as she can take with ease.

In the past doctors have recommended that the baby should be fed every three or four hours. It has been

found, however, that there is a great deal of difference in the time that it takes to empty the stomach of different babies, and it is now known that the interval between feedings should vary to suit the needs of the individual baby. There should, however, be a definite interval between feedings, whether two hours or four hours, and the baby should never be fed except at the regular feeding time. His nursing hours should start at 6:00 a.m. or 7:00 a.m., depending upon the time that the mother naturally awakens. He should be fed at the proper time even if it is necessary to awaken him for the feeding. The young mother who follows this practice will find that at the end of a month or so, her baby will wake naturally at feeding time.

The baby should nurse from fifteen to twenty minutes at a time, and should nurse from one breast only, at a time. When the baby is six months old, it may be fed two tablespoonfuls of well cooked cereal daily. To prepare this cook one tablespoonful of farina in one cupful of water, in a double boiler, for thirty minutes. Serve it with two ounces of milk, and feed it with a spoon.

Mixed Feeding of Older Babies.

At the age of six and one-half months, two graham crackers a day, and a little zwieback may be added to the diet. At seven months the baby may be fed a little beef broth, and a bit of baked apple, in addition to the cereal, graham crackers and zwieback.

At eight months the baby may be given mashed carrots, and clear soups made of beef, chicken, or vegetables. The vegetable soup is made by cooking ont potatoe,

one stalk of celery, one carrot, one white turnip, one table-spoonful of green peas, in one quart of water. This should cook until it makes one pint of soup. Run it through a strainer; but do not mash the vegetables.

At ten months the baby may be allowed mashed potatoes, or baked potatoes, and one or more bottles of milk. Mothers feeding the baby potatoes, must watch carefully the baby's bowels. If there is a tendency to diarrhoea, potatoes should not be included in the diet until the baby is older.

Most babies are weaned when about ten months old. It is not well, however, to wean a baby during the months of July and August, for doing so makes it necessary for the baby to adjust himself not only to the hot weather, but also to a new diet.

Artificial Feeding.

If it is necessary for the mother to feed the baby from bottles, she should prepare at one time enough bottles to last for twenty-four hours.

To prepare the bottles she must have: One bottle brush, six bottles, six nipples, six corks, one glass, one saucer, one teaspoon, one knife, a two-quart pitcher, and a large kettle, in which to boil the bottles.

Before preparing the milk the mother should wash her hands and also all the utensils to be used. She should boil the bottles, nipples, corks, etc., for five minutes. Scald the milk, measure and strain the necessary boiled water, measure the sugar and add it to the water, measure and strain the milk, and add the sugar and water to it. Then fill the

nursing bottles, cork them, set them aside to cool, and place them in the ice box until they are needed.

Before serving a bottle warm it to blood heat, by putting the bottle in a vessel of warm water. Test the temperature of the milk by sprinkling a few drops on the back of the hand.

The mother should always hold the baby while it is taking its bottle; never give a bottle to a baby that is lying down in its crib or basket. The feeding should take about twenty minutes. If the baby eats too rapidly, or if it takes air in with the milk, it will get colic.

Bathing.

The baby must have a bath daily. The water for the bath should be about body temperature. If you do not have a thermometer, test the water by placing your elbow in it. Don't depend on the hand to determine the temperature. On very warm days, a baby should be sponged two or three times with lukewarm water, and it is well to rub him once or twice a day with a little alcohol - grain alcohol, not wood alcohol. Always give a bath just before feeding time.

Before beginning the baby's bath, have everything ready. You will need a bathtub, - the regular footbath is about the right size for the baby's tub - soap, towel, washcloth, pitcher of hot water, the baby's clothing, a glass of boric acid solution, and absorbent cotton. The boric acid solution is for washing the baby's eyes, ears and nostrils. It should be applied on little bits of absorbent cotton, and the same bit of cotton should never be used for washing more than one eye, or ear, or nostril, in order to avoid the

possibility of carrying infection.

Wash the baby's face and head before putting it into the tub. Then lower him into the water, meanwhile supporting the head and shoulders with the hand. Bathe him well, and dry him thoroughly, being careful that the groin and the armpits are well dried. Do not let him get chilled while dressing him. Be careful to use a very soft towel, and a very soft washcloth, - as a matter of fact, the more nearly worn out they are, the more nearly they are likely to be soft enough not to injure the baby's skin.

Clothing.

The clothing should be soft, light, warm, and plain. The weight of it should vary with the weather. On very hot days the baby should be dressed in little or nothing, except its band, and diaper. In cold weather it should be dressed warmly enough so that its hands and feet will feel warm. A baby that perspires is too warmly dressed. More babies have been killed or injured by being dressed too warmly, than by being dressed too scantily.

The band, which is put on first, in dressing the baby after his bath, should be of soft flannel. After the band is in place, put on the diaper, and then the shirt, which should be part wool, for the first year. The petticoat should be arranged inside the dress, and both should be slipped on together over the feet. Turn the baby on his side in order to fasten his clothes. It should be necessary to turn him only once. Lastly, put on the stockings, which ought to be wool, or part wool.

The baby's clothing should be changed every

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day, and all diapers must be washed and scalded after each using, unless the mother wants to run the risk of the baby's developing eczema. Even if they are only slightly wet they must be washed out and scalded.

Baby's Bed and Sleeping.

The best bed for the baby is a crib, or a basket of sufficient size. A clothes-basket may be used to advantage for the first year, for it can be easily moved from one part of the house to another. All bedding should be light in weight, and it should be kept fresh and clean. Either no pillow at all should be used, or a very small one. The mattress may be protected by rubber sheeting or oil cloth placed under the sheet. Between the baby and the sheet there should be a pad made of absorbent cotton covered with cheesecloth, and loosely knotted like a small comforter, or a pad made of several thicknesses of old sheets. These pads should be washed daily. The blankets used should be light enough so that they can be washed often. A netting screen may be used to keep flies and mosquitoes from the baby; but it should be watched to see that it does not drop into the baby's face.

The baby should sleep alone in a room where the air is fresh. It is well during the daytime to have the baby sleep out-of-doors most of the time. The baby should be put to bed at regular times, and should be taken up at regular times. These times should not be determined by his crying, but should follow a fixed schedule. If a baby is not hungry, is not wet, is not uncomfortable in any way, crying

AT WHAT AGE DO BABIES DIE IN CHICAGO?

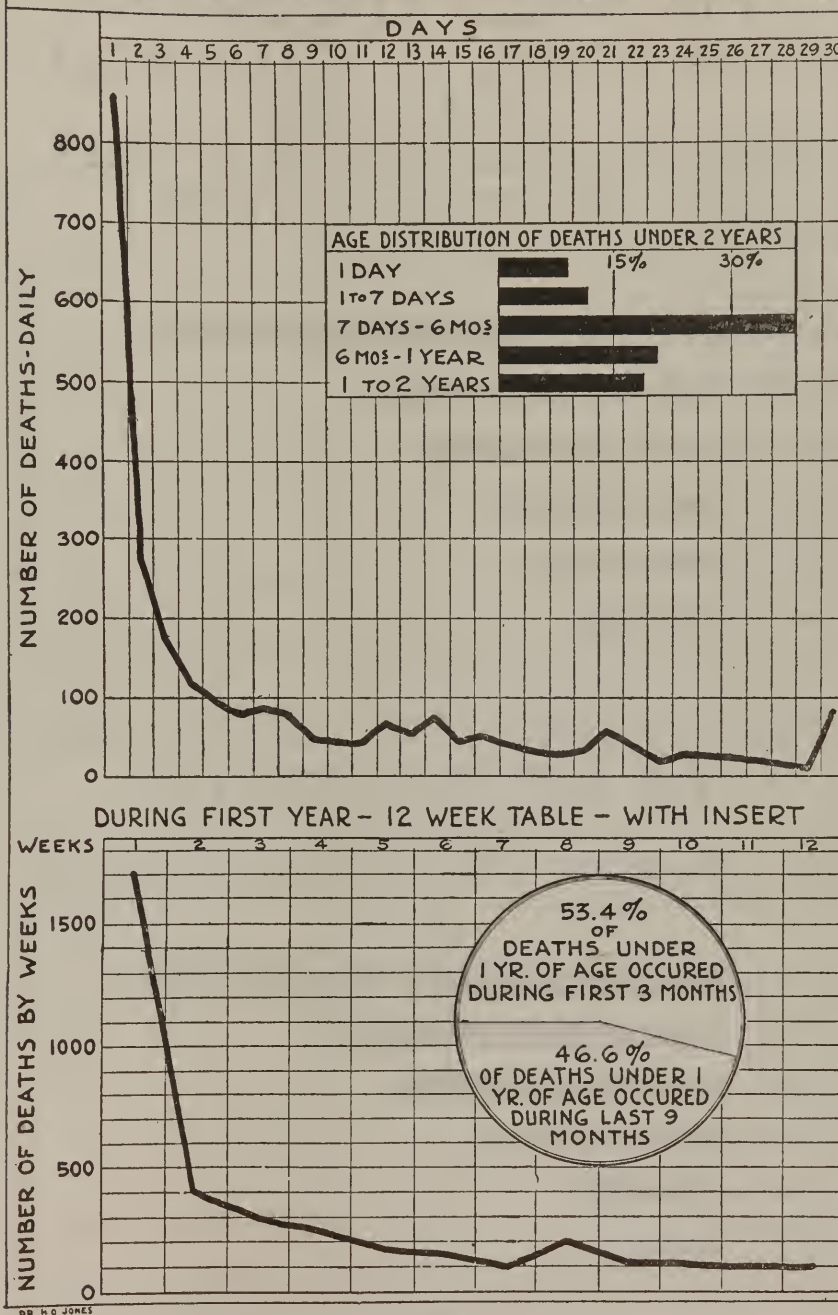
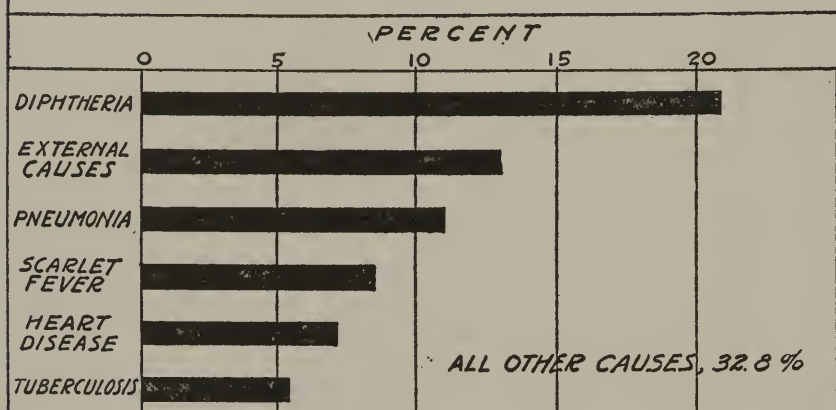


FIGURE 37.

WHAT KILLS THE SCHOOL CHILDREN IN CHICAGO

1912 - 1918

PRINCIPAL CAUSES OF DEATH BETWEEN THE AGES OF 5 & 10 YEARS



PRINCIPAL CAUSES OF DEATH BETWEEN THE AGES OF 10 & 20 YEARS

1912 - 1918

PERCENTAGE OF TOTAL DEATHS AT THIS AGE

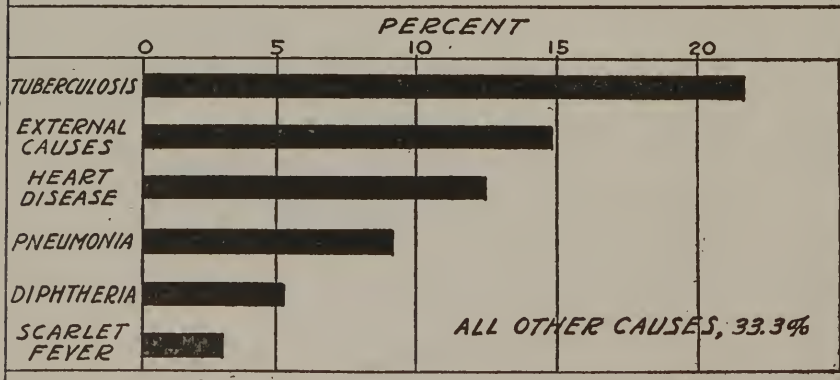


FIGURE 38.

will not hurt him. Every baby must cry a certain amount of the time in order to develop his lungs, and to give his body necessary exercise. It is very easy to distinguish between the cry of pain, the cry of discomfort, and just ordinary crying.

General Care.

If the baby gets colic give him warm water to drink, and apply heat to his stomach. If he is properly fed, and is not allowed to get chilled, he will not have colic.

During infancy many life habits are established. The baby should be trained to regular sleeping, regular eating, regular movements of the bowels, and absolute obedience at all times.

The following are often given as the milestone of the baby's first two years:

One month, taste, sight and hearing.

Three months, plays with hands.

Four months, holds up head.

Six months, sits up easily; first tooth appears.

Eight months, creeps; laughs and sighs.

Nine months, tries to stand.

Ten months, attempts to walk.

Twelve months, begins to talk.

Fourteen months, walks readily, and talks well.

Eighteen months, begins to run and tries to play ball.

Lesson 26.

CARE OF THE OLDER CHILD.

The proper development of the normal child depends almost entirely upon:

- (a) Proper feeding.
- (b) Proper surroundings.
- (c) Proper environment.

Proper Feeding.

Proper feeding of a child includes not only the food given, but the manner in which it is given. The child should not be allowed to eat too fast. It is often difficult to prevent this if he has his mind set on getting back to play as quickly as possible. It is often necessary to make a rule that the child must stay at the table a certain time at each meal time. If he knows that he must stay at the table whether he is eating or not, the temptation to hurry will be removed.

It is not well that one child should eat by himself. Children eat more when they are in the company of other children, and it is more common to find children who do not eat enough than to find children who eat too much.

The growing child is particularly in need of foods that are rich in mineral salts. He does not need tea, coffee, nor alcoholics. Candy, cake, pastry and the like should not be given to the child under six, and when given to older children should be given sparingly, for they have the effect of satisfying the appetite before the child has really had enough to eat. When candy is given, it

(Care of the Child).

should be given immediately after a meal.

A good diet for a growing child should consist of plenty of milk, cereals, vegetables, fruit, meat, bread and butter.

Proper Surroundings.

Every child should live where he can get plenty of pure, fresh air, and where he has plenty of space in which to play. It is quite as bad to deprive a child of sufficient fresh air, as it is to deprive him of sufficient food. Children that are kept indoors a great deal, in hot, close, or overheated rooms, are usually dull, listless, pale and under developed. The system of such a child is not resistant to disease.

Children naturally require a great deal of exercise to develop their growing bodies. This exercise they get by means of play. If they do not have a yard of their own to play in, they should at least be near a public park, or a public playground.

Proper Environment.

The child's environment includes his surroundings, and the people with whom he comes into contact. For many years there was much discussion among scientists as to whether heredity or environment had the greater influence in molding the life of a child. Nowadays it is pretty generally believed that defects of heredity can be entirely overcome by the child's environment and training.

At no other time in life is the environment so important as during the first six years. The Jesuits were accustomed to say, "Give us a child during his first six

(Care of the Child).

years and we do not care who has charge of him after that". This was because they knew that the training of the first six years determines the sort of person the child will become.

The most important factor in a child's training is his environment. It is not what he is told he should do, but what he sees others doing, that determines what he will do.

The mother or nurse should watch the habits of the child during these years. Every child under six years of age should sleep from eight to ten hours at night and should take a nap daily. If the child gets enough sleep and enough food, his weight should correspond to those of the following table, prepared by Dr. W. R. P. Emerson:

<u>Height</u>	<u>Average Weight for Height</u>	
	Boys	Girls
Inches	Pounds	Pounds
35	32.0	31.0
36	33.5	32.5
37	34.5	33.5
38	36.0	35.0
39	37.5	36.5
40	39.0	38.0
41	40.5	39.5
42	42.0	41.0
43	43.5	43.0
44	45.5	44.5
45	47.5	46.5
46	49.5	48.5
47	51.5	51.0
48	53.5	53.5
49	55.5	55.5
50	58.5	58.5
51	62.0	61.0
52	66.0	64.0
53	69.0	67.5
54	72.5	71.0
55	77.5	75.0
56	79.5	78.5

(Care of the child).

	Boys	Girls
Inches	Pounds	Pounds
57	85.5	83.0
58	87.5	87.0
59	91.5	91.5
60	95.0	96.5
61	99.5	102.5
62	105.0	110.5
63	109.5	116.0
64	116.0	
65	119.5	
66	126.0	
67	134.0	
68	138.5	

Proper Nourishment.

If a child does not weigh as much as he should for his height, he is probably undernourished. This does not mean that he is not getting enough food; but that he is not getting enough of the right kind of food. Doctors claim that one-third of the children in the United States are undernourished. This condition is found just as frequently among children of the very rich, as among children of the very poor; because the children of the rich, or of the well-to-do, are likely to be allowed more freedom in selecting their foods than other children, and are likely to select foods that are not particularly nourishing.

If a child is underweight and this condition is not due to enlarged adenoids, enlarged tonsils, or some physical defect or disease, the mother may be sure that the child is not eating enough of the right sort of food. If she is certain the child is getting the proper kind of food, then she will need turn her attention to getting him to eat more. The best means of accomplishing this is probably to give him a meal in the middle of the forenoon,

(Care of the Child).

and another in the middle of the afternoon. Experiment has shown that a child derives more nourishment from five moderate meals a day than from three large ones.

General Physical Condition.

During this period the child's teeth should be watched carefully and treated promptly if decay appears. We now have medical inspection in the school, to detect defects of vision and hearing. If such defects are reported to the parent, the parents should do all in their power to have the defect remedied.

The mother should do all that she can to guard the child against measles, chickenpox, whooping cough and the other so-called diseases of childhood. The old idea that every child was bound to have these diseases sooner or later, and might as well get them and have it over with, is no longer believed true. We know now that children do not need to have these diseases any more than they need to have any other disease. We know also that an attack of measles or whooping cough greatly lowers the child's resistance to other diseases.

If a child weighs enough for his height, the mother may feel reasonably certain that his body is developing satisfactorily.

Mental development is measured by years; but the mental age is not based upon physical age. It often happens that a child six years old mentally may be ten years old physically. The scale most frequently used in determining mental age is the Binet Test.

LESSON 27.

REVIEW QUESTIONS ON GENERAL NURSING.

1. What are the necessary qualifications of a good nurse?
2. Why is it necessary that the nurse be able to improvise?
3. What are the nurse's duties to her patient?
4. Why should the nurse make written notes of the doctor's directions?
5. Should the nurse ever give the patient medicine without consulting the doctor? Give reasons for your answer.
6. How should the nurse maintain her own health?
7. Why should the nurse be particularly careful about her shoes?
8. Discuss the proper sort of dress for a nurse.
9. Describe a model sick room.
10. What sort of room would you select for an elderly invalid?
11. What sort of room would you select for a patient with a contagious disease?
12. Why should the sick room be near the bath room?
13. What is dust composed of?
14. What are the essential furnishings of a sick room?
15. How would you raise a low bed to the proper height?
16. What is the best sort of bedding?
17. How would you protect the mattress if it needed protection?
18. Why do we need fresh air in the sick room?
19. How would you ventilate a room with only one window in it?

20. Name some methods of protecting the patient from draughts.
21. What is the proper temperature for a sick room?
22. Why should flies be kept out of the sick room?
23. How should the floors of a sick room be cleaned?
24. What disposal is made of the urine, feces and vomited matter in communicable diseases?
25. How is the soiled linen treated in cases of communicable diseases?
26. Why should not family worries be discussed in the presence of a patient?
27. Describe the making of a medical bed.
28. What difference is there between the making of a medical bed and a surgical bed?
29. What difference is there between the making of a medical bed and a maternity bed? A fracture bed?
30. Describe the method of making a bed with the patient in it without changing the sheets.
31. How would you change the lower sheets of a bed with the patient in the bed?
32. Tell how you would change the upper sheet with the patient in bed.
33. How would you turn the mattress with the patient in bed?
34. When should the patient be humored?
35. What care should the nurse take of the patient before she gives him his breakfast?
36. How would you prop a patient up in bed?

37. What would you do in treating a case of difficult breathing?
38. Name several methods of resting the patient who must lie in bed all of the time.
39. Name several uses for small pillows.
40. Discuss the method of getting a patient up in a chair.
41. How long should a patient sit up the first time?
42. Why should one not use forcible restraint for a delirious patient?
43. Discuss the proper method of giving a bed pan to a patient.
44. Why should the nurse be careful about the way she gives the bed pan?
45. What care should be taken of the bed pan in typhoid cases?
46. Name four common causes of bedsores.
47. Name four ways of preventing bedsores.
48. What are the drugs most commonly used in headache tablets and what are the objections to their use?
49. Give ten rules for the giving of liquid medicine.
50. What is the best method of giving powders?
51. How would you give pills to a patient who had trouble in swallowing them?
52. What special care must you take of tinctures? Why?
53. How often should the medicine cupboard be gone over? Why?
54. Name the five ways in which medicines are introduced into the body.
55. Name eight or more medicines that should be in every home.

56. What should be included in the essential equipment of a sick room?
57. Name five good disinfectants.
58. What is the normal human temperature?
59. Name five causes of a lowered temperature.
60. Name five or more causes of an increase in temperature.
61. Name three ways of taking the temperature with a clinical thermometer, and tell when each is used.
62. Define pulse.
63. How would you take the pulse of a patient who had both wrists bandaged?
64. Name three causes of quickened pulse. What is the normal pulse rate?
65. What four things do we consider when taking a patient's pulse?
66. Define intermittent pulse.
67. What is respiration? What is the normal rate of respiration?
68. How is the respiration rate usually taken?
69. Name five things the nurse should note in recording respiration.
70. Name five remedial uses of water and tell what you mean by each.
71. Describe the method of giving a cleansing bath to a patient in bed.
72. Describe the method of changing the gown of a patient in bed.
73. When should you give a cold sponge bath? How do you give it?

74. Give four cases where a hot foot bath is valuable.
75. What caution should be observed when giving hot packs or sweats?
76. For what are enemata employed?
77. When should the nurse give the patient an enema?
78. Define a douche, and tell when douches should be given by a nurse.
79. Name five or more symptoms of sickness.
80. What are the symptoms of fever?
81. What are the symptoms of hip disease?
82. Name three common causes of bad breath.
83. What is the usual cause of mouth breathing?
84. What is sputum? How should it be disposed of?
85. Tell how to prepare a sputum specimen for the doctor.
86. Tell how to prepare a urine specimen for the doctor.
87. Why should a nurse keep bedside notes? What should she include in these notes?
88. Define first aid.
89. What are the signs by which one may tell that there is an internal hemorrhage?
90. What is the treatment for internal hemorrhage?
91. Should the nurse give stimulants in case of hemorrhage? Give reasons for your answer.
92. How can one distinguish between a lung hemorrhage and a stomach hemorrhage?
93. Name five or more causes of nose hemorrhage, and tell how it should be treated.
94. Name four or more causes of convulsions in children, and tell how they should be treated.

95. What would you do in treating a patient that had fainted?
96. Name five or more causes of unconsciousness.
97. How can you distinguish between the unconsciousness of apoplexy and the unconsciousness of alcoholism?
98. What is the emergency treatment for apoplexy?
99. What is the emergency treatment for shock?
100. Distinguish between the treatment for sunstroke and for heat exhaustion.
101. How do you make a poultice?
102. When are stupes used, and how are they made?
103. What are two important cautions to be observed in the use of the hot water bottle?
104. What is the emergency treatment for wounds?
105. What is the emergency treatment for burns?
106. What is the emergency treatment for acid burns?
107. Name and define the three kinds of fracture.
108. Name five symptoms of fracture.
109. What is the treatment for fracture?
110. What are splints? What may they be made of?
111. Why should the nurse never attempt to adjust the parts in case of compound fracture?
112. Name and define the three classes of external hemorrhage.
113. What is the emergency treatment for external hemorrhage?
114. How do you make a tourniquet, and what points must you remember in applying one?
115. What are sprains?

116. What are the common symptoms of sprain?
117. What is the treatment for sprains?
118. How would you induce artificial respiration?
119. Should the nurse treat cases of dog bite? Give a reason for your answer.
120. What is the treatment for bee stings and insect bites?
121. Name and define three kinds of bandages.
122. Name two substances that the nurse is safe in giving to all cases of poisoning.
123. When should a nurse not give an emetic in case of poisoning?
124. What would you give for an emetic?
125. Discuss the symptoms and the treatment for carbolic acid poisoning.
126. Discuss the symptoms and the treatment for arsenic poisoning.
127. What are the usual causes of arsenic poisoning?
128. What are the symptoms and causes for mercury poisoning?
129. Name five common alkali poisons.
130. What are the symptoms and treatment for alkali poisons?
131. What is the treatment for iodine poisoning?
132. What is the treatment for phosphorus poisoning?
133. Name five common narcotic poisons.
134. What are the symptoms and treatment for narcotic poisoning?
135. What is the emergency treatment for poisoning from anaesthetics?

136. Name five common acids that may cause poisoning and discuss the treatment for acid poisoning.
137. What is the treatment for mushroom poisoning, and for ptomaine poisoning?
138. What causes ptomaine poisoning? and
139. What are the symptoms and treatment for ivy poison?
140. From what does the human body get energy?
141. Why does the human body need air?
142. What is carbon dioxide, and how is it produced?
143. What are the duties of the kidneys?
144. What are vitamins and where are they found?
145. What are the five classes into which food is divided?
146. To what class of foods does each of the following belong: Meat, sugar, butter, fish, eggs, olive oil, molasses, candy, beets, milk, cheese, gluten, corn-starch, white flour, rice, dried peas, dried beans, lard, oleomargarine, nuts?
147. In what vegetables is iron plentiful?
148. Where do we find phosphorus in the body? In what foods is it abundant?
149. What are the sources of water in the system?
150. Name five uses of water in the body.
151. What is a calory?
152. How much of each of the following will you have to eat in order to produce 100 calories of heat?
Milk, toast, eggs, bacon, potatoes, apples, oranges.
153. What care should be observed in feeding a helpless patient? An unconscious patient?

154. What are three ways in which the nurse may tempt the patient's appetite?
155. Which is better, to serve a little of several foods, or a quantity of one food?
156. Why is it important that the patient be kept cheerful while he is eating?
157. Name ten foods that would constitute a fluid diet.
158. What diet would you give a child that had measles?
Tonsillitis? Chickenpox? Cold?
159. What is the guide to the correct diet for a typhoid patient?
160. What is the guide to the diet for diabetes?
161. What foods must a patient suffering from diabetes avoid?
162. What foods is such a patient allowed to have?
163. What is the diet for patients suffering from tuberculosis?
164. What diet would you give a patient suffering from nausea?
165. Name the three fundamentals of civilized life.
166. What four fundamentals has the present day sanitarian added to the original three fundamentals? Discuss each of these fundamental requirements.
167. What are the six classes of things that we ought to get rid of in the home? Give reasons for getting rid of each one.
168. What should one do about gas leaks?
169. Why is it better to keep soiled clothing in a willow hamper than in a closed box.

170. How can one get rid of bedbugs, roaches, fleas, rats?
171. What is the greatest danger to health from harboring rats?
172. What are the two chief things we ought to bring into the home? Give reasons why each should be brought in.
173. What are the four classes of things we ought to keep out of the house? Tell how each class can be kept out.
174. Why should we avoid defective plumbing?
175. How does Chicago dispose of sewage?
176. What are the objections to drains made of tiled pipe?
177. What is a catch basin and what is it for?
178. What four classes of vertical pipes are usually found in every house? How can you distinguish these pipes from each other?
179. What is a trap? Why is it necessary that the trap be in good order and filled with water?
180. How should porcelain sinks and other plumbing fixtures be cleaned? Why should they not be cleaned with scouring powders?
181. What are cells and how are they fastened together?
182. Name the three classes of fungi and how does each class multiply itself?
183. Name and define the two classes of bacteria.
184. Name and define the three groups of parasitic bacteria.
185. Name and define the four classes of cocci.
186. How are bacilli classified?
187. What do the staphylococci produce?
188. What causes erysipelas?

189. What precautions should a nurse take who has been nursing a case of erysipelas?
190. What causes colds?
191. Give three or four ways of avoiding colds.
192. What is bronchitis? How is it carried? How may it be avoided?
193. What is infantile paralysis?
194. How is infantile paralysis conveyed? How may it be avoided?
195. How is cerebrospinal meningitis carried? How may it be avoided?
196. What percentage of the deaths of Chicago are due to pneumonia?
197. What are the symptoms of pneumonia? How is it conveyed and how may it be avoided?
198. What are the symptoms of contagious sore throat? How is it conveyed and how may it be avoided?
199. What is the difference between tonsillitis and quinsy?
200. How is tonsillitis conveyed and how may it be avoided?
201. How is diphtheria conveyed and how may it be avoided?
202. What are the symptoms of scarlet fever? How is it conveyed and how may it be avoided?
203. What are the symptoms of measles? How is it conveyed and how may it be avoided?
204. What is German Measles? How is it conveyed and how may it be avoided?
205. How are mumps conveyed and how may they be avoided?
206. How is whooping cough conveyed and how may it be avoided?
207. Are whooping cough and measles serious diseases? Give reasons for your answer.

208. What is chancreoid? How is it conveyed and how may it be avoided?
209. What are the three stages of syphilis?
210. Name five or six ways in which syphilis may be conveyed.
211. Name three ways in which gonorrhoea may be conveyed. How may it be avoided?
212. How is typhoid fever transmitted?
213. Give six rules for preventing the spread of typhoid fever
214. How is malaria conveyed?
215. Give two rules for preventing the spread of malaria.
216. How is yellow fever conveyed? How may its spread be prevented?
217. What are the symptoms of chickenpox? How is it conveyed and how may it be avoided?
218. What are the five varieties of smallpox?
219. How is smallpox and how may it be avoided?
220. What is impetigo contagiosa and how may it be avoided?
221. How is itch conveyed? What will cure it?
222. What is the cause of summer diarrhoea of infants?
223. Give two rules for preventing babies from getting summer diarrhoea.
224. How is dysentery conveyed and how may it be avoided?
225. What is the first rule for a nurse in a contagious disease sick room?
226. How should a nurse dress for nursing a contagious disease?
227. How does a nurse care for the thermometer used by a patient suffering from a contagious disease?
228. Name six drugs needed in the contagious disease room, in addition to the doctor's prescriptions.

228. How should the laundry be handled in the case of contagious diseases?
230. How should dishes and utensils used in a contagious disease sick room be disinfected?
231. What must be done before the contagious disease patient may be released from quarantine?
232. What are the symptoms of influenza and what are its most common complications?
233. What precautions should the nurse take to prevent the spread of the disease?
234. Why should an influenza patient never be exposed to cold draughts?
235. What should be the diet for an influenza patient?
236. Why is it particularly harmful for the influenza victim to take headache or cold remedies?
237. What emergency applications may be made in case an influenza patient suffers from severe pain in the chest?
238. What measures are permissible for an influenza patient's headache?
239. What complication do children often develop as a result of influenza?
240. Discuss the convalescence of an influenza patient.
241. Give six rules that the nurse should observe in order to avoid catching influenza herself.
242. Where will the tubercle bacillus grow?
243. Where do children usually have tuberculosis?
244. What are the three ways by which tuberculosis enters the body?

(Review Questions)

100 25

245. What are the most common symptoms of tuberculosis?
246. Why should all cases of tuberculosis be reported to the Health Department?
247. Give five rules for preventing the spread of tuberculosis.
248. How would you disinfect the room from which a tuberculous patient has been taken?
249. What things are necessary to prepare the bottle for a bottle fed baby?
250. How would you test the temperature of milk for a bottle fed baby?
251. How often should a baby have a bath? How should it be given?
252. With what should the baby's eyes and nostrils be bathed daily?
253. What clothes should a baby wear on a very hot day?
254. In what order should the baby's clothes be put on?
255. How often must a baby's diapers be washed? Why?
256. What sort of bed should be used for the baby and how should it be made?
257. Does crying injure the baby? Give reasons for your answer.
258. What would you do for a baby that has colic?
259. What habits should be established in infancy?
260. Upon what three things does the development of the normal child depend?
261. Name a good diet for a growing child.
262. Name five foods that should not be given to the growing child.

263. Why should a child have a yard or a public play ground to play in?
264. What is the most important factor in a child's training? Why?
265. What do you mean when you say that a child is under-nourished?
266. Name four or five common causes of a child's being under weight.
267. Which is the better for a child, five moderate meals a day or three large ones?
268. Define menstruation.
269. What are the symptoms of pregnancy?
270. How can a pregnant woman determine the time for her confinement?
271. What should be the diet of a pregnant woman?
272. Name and discuss briefly eight of the possible complications of pregnancy.
273. How can a nurse sterilize supplies at the patient's home?
274. What are the signs of the beginning of labor?
275. What care should the nurse take of the patient in labor?
276. When should the nurse summon the doctor in a confinement case? Why?
277. What treatment must the eyes of a new born baby receive. Why?
278. What care is taken of the infant after its eyes have been treated?
279. When is the baby given its first nursing? What treatment of the breasts is necessary before the baby is given its nursing?

280. What care must be taken of the patient the second day?
281. What should be the diet of the lying-in woman?
282. What is the proper food for babies? Why?
283. When should mothers not nourish their babies?
284. How may a nursing mother decide whether it is safe for her to eat cabbage, onions, etc.
285. What should be the interval between the baby's feedings?
286. How long should a baby nurse at a time?
287. When may the baby begin to take other food than mother's milk and what other foods may he have?

DIRECTORY OF HEALTH, CHARITABLE, MEDICAL AND SOCIAL AGENCIES IN CHICAGO.

HEALTH

DEPARTMENT OF HEALTH,

720 City Hall. Tel. Main 447, for all bureaus.
Complaints received in regard to insanitary conditions, violations of health ordinances, breaking of quarantine, sale of unwholesome milk and food. Distributes free vaccine and antitoxin. Laboratory makes Widal tests for typhoid, and examinations of throat cultures for diphtheria and sputum for tuberculosis.

MUNICIPAL CONTAGIOUS DISEASE HOSPITAL.

31st St. & California Ave. Tel. Rockwell 5000.
Receives patients suffering from scarlet fever and diphtheria.

HEALTH DEPARTMENT INFANT WELFARE STATIONS.

Sta. No. 1 - 4253 S. State St. Tel. Boulevard 1817.
" " 2 - Polk & Paulina Sts. Tel. Seeley 5060.
" " 3 - 1642 W. 35th St. Tel. McKinley 1686.
" " 4 - 3132 S. LaSalle St. Tel. Drover 4094.

Give guidance to mothers in the care and feeding of their babies.

HEALTH DEPARTMENT VENEREAL DISEASE CLINICS.

Sedgwick Sta. - 1367 N. Sedgwick St.
Racine Ave. Sta. - 1215 S. Racine Ave.
South Side Sta. - 2950 Calumet Ave.
Stock Yards Sta. - 734 W. 47th St.
Grand Crossing Sta. - 1000 E. 75th St.
Iroquois Memorial Hospital - 23 N. Market St.
For the free treatment of venereal diseases.

CHICAGO TRAINING SCHOOL FOR HOME AND PUBLIC HEALTH NURSING.

Ada & Fulton Sts. Tel. Haymarket 8199.
Gives courses in home and public health nursing. Keeps a register of persons available as home nurses.

MUNICIPAL TUBERCULOSIS SANITARIUM (General Office).

105 W. Monroe St. Tel. Central 8644.
General supervision and control of tuberculosis in the city of Chicago.

MUNICIPAL TUBERCULOSIS SANITARIUM.

Crawford & Bryn Mawr Aves. Tel. Monticello 3500.
Free institutional care of persons having tuberculosis in the early stages.

MUNICIPAL TUBERCULOSIS SANITARIUM DISPENSARIES.

Sedgwick St. - 1367 Sedgwick St. Tel. Superior 9081.
Ashland Ave. - 10 S. Ashland Ave. Tel. Seeley 858.
Racine Ave. - 1215 S. Racine Ave. Tel. Canal 1538.
Stock Yards - 738 W. 47th St. Drover 5480.

(Directory of health, charitable, medical and social agencies)

MUNICIPAL TUBERCULOSIS SANITARIUM DISPENSARIES - Cont'd.

Grand Crossing - 1000 E. 75th St. Tel. Blackstone 1633.

Northwest - 1330 W. Ashland Ave. Tel. Armitage 2955.

Nabash Ave. - 4746 Nabash Ave. Tel. Kenwood 8771.

South Side - 2950 Calumet Ave. Tel. Douglas 7596.

For the diagnosis, treatment and supervision of cases of tuberculosis. Also take applications and make examinations of persons to be admitted to the Municipal Tuberculosis Sanitarium.

INFANT WELFARE SOCIETY. (General Office).

104 S. Michigan Ave. Tel. Randolph 3146.

General supervision of the infant welfare stations operated by this organization.

STATIONS:

Allport Sta. - 1718 S. Racine Ave. Tel. Canal 4112.

Ashland " - 1701 Washburne Ave. Tel. Canal 82.

Burlington Sta. - 20th & May Sts. Tel. Monroe 5840.

Henry Booth " - 701 W. 14th Pl. "

Mary Crane " - 820 Gilpin Pl. Tel. Monroe 6231.

Southwest - 1357 W. 20th St. Tel. Canal 4018.

Trumbull Sta. - 2337 S. Trumbull Ave. Tel. Rockwell 310

Armitage " - 1952 W. Armitage Ave. Tel. Armitage 4414

Chicago Commons - 955 Grand Ave. Tel. Monroe 1030.

Eric Sta. - 1753 W. Erie St. Tel. Monroe 6682

New Trier Sta. - Chicago Ave. & Noble St. Tel. Monroe 5840

North Ave. - 1714 W. North Ave. Tel. Monroe 4885.

Northwestern - 1400 W. Augusta St. Tel. Monroe 1717.

St. Elizabeth - 1458 Blackhawk St. Tel. Monroe 5691.

Bishop Sta. - 4751 S. Loomis St. Tel. Drovers 2074.

Forty-third St. Sta. - 554 W. 43d St. Tel. Boul. 2155.

Cornell Square - 51st & Wood Sts. Tel. Prospect 5350.

Davis Square - 44th & Marshfield Ave. Tel. Yards 127.

Jackson Park Board - 83d & Bond Ave. So. Chi. 1740.

Palmer Park - 111th St. & South Park Ave.

Providence - 3052 Grattan Ave. Tel. Yards 4663.

Milton Ave. Sta. - 876 Townsend St. Tel. Superior 6833.

Seward Park - Elm & Sedgwick Sts. Tel. Superior 5430.

Give guidance to mothers in the care and feeding of babies.

CHARITABLE

COUNTY AGENT (Main Office).

213 Peoria St. Tel. Monroe 2608.

Gives medical and material aid to the worthy poor.

UNITED CHARITIES OF CHICAGO.

168 W. Michigan Ave. Tel. Majestic 7160.

Gives relief and aid to the worthy poor.

(Directory of health, charitable, medical and social agencies)

ASSOCIATED CATHOLIC CHARITIES.

7 W. Madison St. Tel. Majestic 7191.

Give relief and aid to the worthy poor.

ASSOCIATED JEWISH CHARITY CHICAGO.

1800 Selden St. Tel. West 4980.

Give relief and aid to the worthy poor.

VISITING NURSE ASSOCIATION.

104 S. Michigan Ave. Tel. Central 1142.

Maintains a staff of visiting nurses for those unable to secure skilled nursing care at home.

POOR HANDMAIDS OF JESUS CHRIST.

1644 Hudson Ave. Tel. Diverssey 3294.

Give nursing care to the poor in their homes.

CHICAGO HOME FOR THE FRIENDLESS.

5059 Vincennes Ave. Tel. Oakland 939.

Provides temporary care for destitute women and children.

CHICAGO FOUNDLINGS' HOME.

15 S. Wood St. Tel. West 1398.

For the care of foundlings and destitute children; for dependent mothers and infants.

ST. VINCENT'S INFANT ASYLUM.

721 N. LaSalle Ave. Tel. Superior 282.

For the care of foundlings and destitute children under four years of age; for dependent mothers with infants.

MEDICAL AID

COOK COUNTY HOSPITAL.

Harrison & Wood Sts. Tel. West 4960.

General charity hospital.

ILLINOIS CHARITABLE EYE AND EAR INFIRMARY.

904 W. Adams St. Tel. Monroe 1109.

Gives free treatment for diseases of the eye, ear, nose and throat.

HOME FOR DESTITUTE CRIPPLED CHILDREN.

1653 Park Ave. West 233.

For the care and treatment of children suffering from orthopedic diseases.

CHICAGO LYING IN HOSPITAL AND DISPENSARY.

426 E. 51st St. Tel. Kenwood 7820.

Gives pre-natal instruction for maternity cases and cares for women during confinement in their homes.

CHICAGO HOME FOR INCURABLES.

5535 Ellis Ave. Tel. Hyde Park 74.

For the care of the incurable.

(Directory of health, charitable, medical and social agencies)

MEDICAL AID (Continued)

FREE MEDICAL DISPENSARIES (In connection with medical colleges)
 Central Free Dispensary of Chicago - 1744 W. Harrison St.
 Tel. West 1400.
 South Side Dispensary - 2431 S. Dearborn St.
 Tel. Calumet 409.
 Lincoln Dispensary - 706 S. Lincoln St. Tel. West 155.
 Hahnemann Dispensary - 2811 Cottage Grove Ave.
 Tel. Calumet 42.
 West Side Free Dispensary - 508 Monroe St. West 4160.
 Give free medical and surgical treatment.

SOCIAL AGENCIES.

BOARD OF EDUCATION. (Bureau of Compulsory Education).
 607 Plymouth Court. Central 3980.
 Makes investigation of children's absence from school.

BUREAU OF SOCIAL SERVICE OF COOK COUNTY.
 1130 County Building. Tel. Franklin 3000.
 Does social service work in Cook County outside of
 Chicago and in connection with the county institutions.

JUVENILE PROTECTIVE ASSOCIATION.
 816 S. Halsted St. Tel. Monroe 5796.
 Works to prevent conditions contributing to the
 dependency and delinquency of children.

ILLINOIS HUMANE SOCIETY.
 1145 S. Wabash Ave. Tel. Harrison 8185.
 For the prevention of cruelty to children and animals.

ELIZABETH MCCORMICK MEMORIAL FUND.
 6 N. Michigan Ave. Tel. Randolph 7250.
 To improve the conditions of child life.

A

Acid poisoning, 72
 Alkali poisoning, 70
 Anaesthetic poisoning, 72
 Apoplexy, 58
 Arsenic poisoning, 70

B

Baby, care of the, 168
 artificial feeding, 170
 bathing, 171
 bed and sleeping, 173
 clothing, 172
 general care, 174
 mixed feeding, 169
 nursing, 168
 Bacteriology, 110
 Bandages, 67
 Baths, 44
 cleansing, 44
 cold pack, 46
 cold sponge, 45
 foot, 47
 hot pack, 46
 sweats, 47
 caution, 47
 Bed making, 18
 changing occupied bed, 21
 making an unoccupied bed, 18
 fracture bed, 20
 maternity " 20
 medical " 18
 surgical " 19
 Bedside notes, 53
 Board of directors, iii
 Body, the human, 74
 Bronchitis, 117
 Burns, 63

C

Carbolic acid poisoning, 69
 Cerebrospinal meningitis, 119
 Chancroid, 126
 Chickenpox, 133
 diet for, 84
 Child, care of the older, 175
 environment, 176
 feeding, proper, 175
 nourishment, 178
 physical condition, 179
 surroundings, 176
 Colds, 117
 diet for, 84

Commissioner's introduction, vii
 Contagious diseases, 110
 bacteriology, 110
 bronchitis, 117
 causes, symptoms, etc., 116
 cerebrospinal meningitis, 119
 chickenpox, 133
 colds, 117
 diarrhoea of infants, 131
 diphtheria, 122
 dysentery, 136
 impetigo contagiosa, 135
 infantile paralysis, 118
 malaria, 132
 measles, 134
 measles, German, 125
 mumps, 125
 pneumonia, 120
 scabies, 136
 scarlet fever, 123
 smallpox, 134
 sore throat, septic, 121
 tonsillitis, 122
 typhoid fever, 130
 venereal diseases, 126
 chancroid, 126
 gonorrhea, 128
 syphilis, 127
 whooping cough, 126
 yellow fever, 133
 Contagious disease nursing, 138

D

Diabetes, diet for, 87
 Diarrhoea, summer, of infants, 131
 Diet for the sick, 83
 chickenpox, 84
 colds, 84
 diabetes, 87
 measles, 84
 nausea and vomiting, 89
 ptomaine poisoning, 84
 scarlet fever, 87
 tonsillitis, 84
 tuberculosis, 88
 typhoid fever, 87
 Diphtheria, 122
 Disinfectants and deodorants, 35
 Dog bites, 67
 Douches, 49
 Dysentery, 136
 Directory of Health, Charitable
 Medical and Social Agencies, 150

E

Enemata, 48

F

Fainting, 57

First aid, 54, 63

to the injured, 63

bandages, 67

burns, 63

dog bites, 67

fractures, 63

caution, 64

hemorrhage, external, 65

insect bites and stings, 67

sprains, 66

unconsciousness due to

drowning, etc., 66

wounds, 63

to the sick, 54

apoplexy, 58

fainting, 57

heat exhaustion, 58

hemorrhages, 54

hot applications, 59

hot water bags, etc. 61

caution, 62

poultices, 60

stupes, 61

infantile spasms, 56

shock, 59

sunstroke, 58

unconsciousness, 57

Food, 78

calcium, 80

carbohydrates, 79

fats, 79

for the sick, 83

iron, 80

mineral salts, 80

phosphorus, 80

potassium, 80

proteins, 78

sodium chlorid, 80

water, 81

Fractures, 63

caution, 64

G

Gonorrhea, 128

H

Heat exhaustion, 58

Hemorrhages, 54

external, 65

Home nurse, the, 5

bedside notes, 53

dress, 7

duties, 6

to her doctor, 6

" herself, 7

" her patient, 6

qualifications, 5

Home nursing for Chicago, vii

Home, sanitation of the, 90

Hot applications, 59

Hot water bags and bottles, 61

caution, 62

I

Impetigo contagiosa, 135

Infantile paralysis, 118

Infantile spasms, 56

Influenza, 142

complications, 147

convalescence, 150

nurse's health, protection of, 150

nursing care of patients with, 145

precautions necessary, 143

symptoms, 142

Insect bites and stings, 67

Iodine poisoning, 71

Ivy poisoning, 73

M

Malaria, 132

Mayor's proclamation, xi

Measles, 124

diet for, 81

Measles, German, 125

Medicines, 30

caution, 36

disinfectants and deodorants, 35

giving of, 30

home equipment, 35

manner of giving, 33

Mercury poisoning, 70

Mother and baby, care of, 153

obstetric nursing, 153

Mumps, 125

Mushroom poisoning, 72

N

Narcotic poisoning, 71

Nausea and vomiting, diet for, 89

Nurse, the home, 5

dress, 7

duties, 6

qualifications, 5

O

Obstetric nursing, 158
 confinement preparations, 162
 labor, preparations for, 163

P

Parasitic diseases, 132
 Patient, routine care of, 23
 bedpan, care of, 23
 bed-sores, prevention of, 27
 breathing, difficult, 24
 chair, getting patient in, 25
 changing position, 25
 daily routine, 23
 delirious patient, restraining, 27
 humoring the patient, 24
 pillows, use of small, 25
 propping patient up in bed, 24
 Phosphorous poisoning, 71
 Plumbing in the home, 101
 fixtures, 108
 sewerage, 102
 traps, 107
 water supply, 102
 Pneumonia, 120
 Poisoning, 69
 acid, 72
 alkali, 70
 anaesthetic, 72
 arsenic, 70
 carbolic acid, 69
 iodine, 71
 ivy, 73
 mercury, 70
 mushroom, 72
 narcotic, 71
 phosphorous, 71
 ptomaine, 72
 Poultices and stupes, 59
 Ptomaine poisoning, 73
 diet for, 84
 Pulse, 39

R

Respiration, 41
 Review questions, 134

S

Sanitation of the home, 90
 Scabies, 136
 Scarlet fever, 123
 Shock, 59

Sickness, symptoms of, 50
 Sick room, 8
 care of, 15
 choice of, 8
 furnishings, 10
 temperature, 15
 ventilation, 13
 Smallpox, 134
 Sore throat, septic, 121
 Sprains, 56
 Sunstroke, 58
 Syphilis, 127

T

Teaching staff, v
 Temperature, pulse and
 respiration, 37
 Tonsillitis, 122
 diet for, 84
 Tuberculosis, 153
 diet for, 88
 nursing care of
 patients, 153
 Typhoid fever, 130
 diet for, 87

U

Unconsciousness, 57
 due to drowning or
 asphyxiation, 66

V

Venereal diseases, 126
 chancre, 126
 gonorrhea, 128
 syphilis, 127

W

Water as a therapeutic
 agent, 43
 baths, 44
 cleansing, 44
 cold pack, 46
 cold sponge, 45
 foot, 47
 hot pack, 46
 sweats, 47
 caution, 47
 Whooping cough, 126
 Wounds, 63
 Yellow fever, 133

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